



الأداء الفني

تقارير المختبرات والاختبارات الفنية

التقارير الأصلية لاختبارات منتجاتنا في مختبرات مستقلة معتمدة، إضافة إلى شهادات موردي المواد الخام. ملحق الملف التعريفي · صفحة الأداء الفني.

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جميع التقارير صادرة عن مختبرات مستقلة معتمدة وتُعرض بصورتها الأصلية. النتائج تخص العينات المختبرة في تاريخ الاختبار المذكور، وتتوفر تقارير أحدث عند الطلب.

اختبار مقاومة الحريق - بلوك مصمت 200×200×400 مم

مختبرات ACES - ACI 216 - ديسمبر 2022

تقرير اختبار



الشركة العربية
Arab Company
For Laboratories and Soil

Concrete Block Test Report For Fire Resistance

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	27-Dec-2022
Consultant	n.p	Sample No.	-
Project No.	n.p	temporary reference number	NO.94-10
Project Name	Abdullatif Jameel Hotel	Client Reference	Verbal
Sample Description	400x200x200 mm - Solid Block	Sampled By	Client's Rep.
supplier	N.P	Sampling Date	5-Dec-2022
Test Method	ACI 216 (Calculation Method)	Sample Brt. In By	Client's Rep.
Test Method Var.	N.P	Date Received	5-Dec-2022
Tested By	ACES' Rep	Date Tested	7-Dec-2022

Test Results Of Fire Resistance

Type	Block No.	Dimensions					Fire Resistance (Hours)
		Length (mm)	Width (mm)	Height (mm)	Face (mm)	Web (mm)	
Solid Block	1	400	200	200	-	-	2.6
	2	400	200	200	-	-	2.8
	3	400	200	200	-	-	2.5

*The test results represent the submitted sample only.

*Test results shall not be interpreted, reproduced or quoted in a whole or in part without prior written approval of ACES

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شركة ذات مسؤولية محدودة - رأس المال المدفوع ١٠٠٠٠٠٠٠٠ ريال

اختبار امتصاص الماء - بلوك مصمت 200×200×400 مم

مختبرات ACES - ASTM C140 ديسمبر 2022

تقرير اختبار



الشركة العربية
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Concrete Block Test Report For Water Absorption

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	27-Dec-2022
Consultant	n.p	Sample No.	10
Project No.	N.P.	temporary reference number	No.94
Project Name	Private	Client Reference	Verbal
Sample Description	400x200x200 mm - Solid Block	Sampled By	Client's Rep.
supplier	N.P	Sample Brt. In By	Client's Rep.
Test Method	ASTM C140/C140M-20a	Date Received	5-Dec-2022
Tested By	ACES	Date Tested	7-Dec-2022

Test Results Of Water Absorption:

Type	Block No.	Dimensions				Dry Wg.	SSD Wg.	Water Absorption %
		Length (mm)	Width (mm)	Height (mm)				
Solid Block	1	400.0	200.0	200.0		34606	35542	2.7
	2	400.0	200.0	200.0		33514	34422	2.7
	3	400.0	200.0	200.0		34560	35332	2.2

Notes:-

*The test results represent the submitted sample only.

*Test results shall not be interpreted, reproduced or quoted in a whole or in part without prior written approval of ACES

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اختبار مقاومة الضغط والأبعاد · بلك مصمت 200×200×400 مم

مختبرات ACES · ASTM C140 ديسمبر 2022

تقرير اختبار



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Test Report Concrete Masonry Units

Test Method: ASTM C140/C140M - 21

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	27/12/2022
Consultant	n.p	Sample No.	-
Project No.	N.P	temporary reference number	NO.94-10
Project Name	Private	Client Reference	N.P.
Sample Description	400x200x200 mm - Solid Block	Sampled By	Client's Rep.
supplier	N.P	Sample Brt. In By	Client's Rep.
Test Method	ASTM C140	Sampling Date	05/12/2022
Test Method Var.	N.P	Date Received	05/12/2022
Tested By	ACES's Rep.	Date Tested	06/12/2022
Lab. Address	Bldg #115, Al Imam Al Bukhari St., Al Basateen, Jeddah, KSA	Testing Location	ACES Lab - Jeddah

Dimensions:

Type	Size	Block						Dimensions		
		No.	Length (mm)	Width (mm)	Height (mm)	Web (mm)	Face (mm)			
Solid Block	400x200x200	1	400.0	200.0	200.0	-	-			
	400x200x200	2	400.0	200.0	200.0	-	-			
	400x200x200	3	400.0	200.0	200.0	-	-			

Test Results by Measured Dimensions:

Type	Size	Block				Net Area (mm ²)	Dry Density (Kg/m ³)	Maximum Load KN	Weight (g)	Compressive Strength (Individual) (Mpa)
		No.	Length (mm)	Width (mm)	Height (mm)					
Solid Block	400x200x200	1	400	200	200	48120	3585.6	1544.9	34606	32.1
	400x200x200	2	400	200	200	50650	3286.2	1325.6	33514	26.2
	400x200x200	3	400	200	200	47635	3615.4	1470.2	34560	30.9
Average										29.7

Notes

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شركة ذات مسؤولية محدودة - رأس المال المدفوع ٥٠٠٠٠٠٠٠ ريال

اختبار مقاومة الحريق - بلوك مصمت 200x150x400 مم

مختبرات ACES - ACI 216 - ديسمبر 2022

تقرير اختبار



Arab Company الشركة العربية
For Laboratories and Soil للمختبرات والتربة

Concrete Block Test Report For Fire Resistance

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	27-Dec-2022
Consultant	n.p	Sample No.	-
Project No.	n.p	Request No.	NO.94-9
Project Name	Abdullatif Jameel Hotel	Client Reference	Verbal
Sample Description	400x150x200 mm - Solid Block	Sampled By	Client's Rep.
supplier	N.P	Sampling Date	5-Dec-2022
Test Method	ACI 216 (Calculation Method)	Sample Brt. In By	Client's Rep.
Test Method Var.	N.P	Date Received	5-Dec-2022
Tested By	ACES' Rep	Date Tested	7-Dec-2022

Test Results Of Fire Resistance

Type	Block No.	Dimensions					Fire Resistance (Hours)
		Length (mm)	Width (mm)	Height (mm)	Face (mm)	Web (mm)	
Solid Block	1	400	150	200	-	-	3.3
	2	400	150	200	-	-	3.3
	3	400	150	200	-	-	3.5

*The test results represent the submitted sample only.

*Test results shall not be interpreted, reproduced or quoted in a whole or in part without prior written approval of ACES

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اختبار امتصاص الماء - بلوك مصمت 200×150×400 مم

مختبرات ACES - ASTM C140 ديسمبر 2022

تقرير اختبار



الشركة العربية
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Concrete Block Test Report For Water Absorption

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	27-Dec-2022
Consultant	n.p	Sample No.	9
Project No.	N.P.	temporary reference number	No.94
Project Name	Private	Client Reference	Verbal
Sample Description	400x150x200 mm - Solid Block	Sampled By	Client's Rep.
supplier	N.P	Sample Brt. In By	Client's Rep.
Test Method	ASTM C140/C140M-20a	Date Received	5-Dec-2022
Tested By	ACES	Date Tested	7-Dec-2022

Test Results Of Water Absorption:

Type	Block No.	Dimensions				Dry Wg.	SSD Wg.	Water Absorption %
		Length (mm)	Width (mm)	Height (mm)				
Solid Block	1	400.0	150.0	200.0		25738	26621	3.4
	2	400.0	150.0	200.0		26159	26889	2.8
	3	400.0	150.0	200.0		26614	27508	3.4

Notes:-

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شركة ذات مسؤولية محدودة - رأس المال المدفوع ٥٠٠٠٠٠٠٠٠٠ ريال

اختبار مقاومة الضغط والأبعاد · بلوك مصمت 200×150×400 مم

مختبرات ACES · ASTM C140 · ديسمبر 2022

تقرير اختبار



Arab Company الشركة العربية
For Laboratories and Soil للمختبرات والتربة

Test Report Concrete Masonry Units

Test Method: ASTM C140/C140M - 21

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	27/12/2022
Consultant	n.p	Sample No.	-
Project No.	N.P	temporary reference number	NO.94-9
Project Name	Private	Client Reference	N.P.
Sample Description	400x150x200 mm - Solid Block	Sampled By	Client's Rep.
supplier	N.P	Sample Brt. In By	Client's Rep.
Test Method	ASTM C140	Sampling Date	05/12/2022
Test Method Var.	N.P	Date Received	05/12/2022
Tested By	ACES's Rep.	Date Tested	06/12/2022
Lab. Address	Bldg #115, Al Imam Al Bukhari St., Al Basateen, Jeddah, KSA	Testing Location	ACES Lab - Jeddah

Dimensions:

Type	Size	Block					
		No.	Length (mm)	Width (mm)	Height (mm)	Web (mm)	Face (mm)
Solid Block	400x150x200	1	400.0	150.0	200.0	-	-
	400x150x200	2	400.0	150.0	200.0	-	-
	400x150x200	3	400.0	150.0	200.0	-	-

Test Results by Measured Dimensions:

Type	Size	Block				Net Area (mm ²)	Dry Density (Kg/m ³)	Maximum Load KN	Weight (t)	Compressive Strength (Individual) (Mpa)
		No.	Length (mm)	Width (mm)	Height (mm)					
Solid Block	400x150x200	1	400	150	200	56460	2246.9	921.0	25738	16.3
	400x150x200	2	400	150	200	56775	2268.3	845.7	26159	14.9
	400x150x200	3	400	150	200	58395	2259.4	901.6	26614	15.4
Average										15.5

Notes

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شركة ذات مسؤولية محدودة - رأس المال المدفوع ٥٠٠٠٠٠٠٠ ريال

اختبار مقاومة الحريق - بلوك مصمت 200×100×400 مم

مختبرات ACES - ACI 216 ديسمبر 2022

تقرير اختبار



Arab Company الشركة العربية
For Laboratories and Soil للمختبرات والتربة

Concrete Block Test Report For Fire Resistance

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	27-Dec-2022
Consultant	Abdullatif Jameel Hotel	Sample No.	-
Project No.	n.p	Request No.	NO.94-8
Project Name	Abdullatif Jameel Hotel	Client Reference	Verbal
Sample Description	400x100x200 mm - Solid Block	Sampled By	Client's Rep.
supplier	N.P	Sampling Date	5-Dec-2022
Test Method	ACI 216 (Calculation Method)	Sample Brt. In By	Client's Rep.
Test Method Var.	N.P	Date Received	5-Dec-2022
Tested By	ACES' Rep	Date Tested	7-Dec-2022

Test Results Of Fire Resistance

Type	Block No.	Dimensions					Fire Resistance (Hours)
		Length (mm)	Width (mm)	Height (mm)	Face (mm)	Web (mm)	
Solid Block	1	400	100	200	-	-	2
	2	400	100	200	-	-	2
	3	400	100	200	-	-	2

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Arab Company For Laboratories and Soil

Yazan Baraka
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Head of Materials Section



اختبار امتصاص الماء - بلوك مصمت 200×100×400 مم

مختبرات ACES - ASTM C140 ديسمبر 2022

تقرير اختبار



Partners for Quality Construction

Arab Company الشركة العربية
For Laboratories and Soil للمختبرات والتربة

Concrete Block Test Report For Water Absorption

Client	Abdullatif Jameel Hotel	Report No.	-
Contractor	Riyadh block factory	Date Reported	27-Dec-2022
Consultant	Abdullatif Jameel Hotel	Sample No.	8
Project No.	N.P.	temporary reference number	No.94
Project Name	Private	Client Reference	Verbal
Sample Description	400x100x200 mm - Solid Block	Sampled By	Client's Rep.
supplier	N.P.	Sample Brt. In By	Client's Rep.
Test Method	ASTM C140/C140M-20a	Date Received	5-Dec-2022
Tested By	ACES	Date Tested	7-Dec-2022

Test Results Of Water Absorption:

Type	Block No.	Dimensions				Dry Wg.	SSD Wg.	Water Absorption %
		Length (mm)	Width (mm)	Height (mm)				
Solid Block	1	400.0	100.0	200.0		17114	17972	5.0
	2	400.0	100.0	200.0		16360	17183	5.0
	3	400.0	100.0	200.0		16898	17708	4.8

Notes:-

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Arab Company For Laboratories and Soil

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شركة ذات مسؤولية محدودة - رأس المال المدفوع ٥٠٠٠٠٠٠٠٠٠ ريال

اختبار مقاومة الضغط والأبعاد · بلوك مصمت 200×100×400 مم

مختبرات ACES · ASTM C140 · ديسمبر 2022

تقرير اختبار



الشركة العربية
Arab Company
For Laboratories and Soil
للمختبرات والتربة

Test Report Concrete Masonry Units

Test Method: ASTM C140/C140M - 21

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	27/12/2022
Consultant	Abdullatif Jameel Hotel	Sample No.	-
Project No.	N.P	temporary reference number	NO.94-8
Project Name	Private	Client Reference	N.P.
Sample Description	400x100x200 mm - Solid Block	Sampled By	Client's Rep.
supplier	N.P	Sample Brt. In By	Client's Rep.
Test Method	ASTM C140	Sampling Date	05/12/2022
Test Method Var.	N.P	Date Received	05/12/2022
Tested By	ACES's Rep.	Date Tested	06/12/2022
Lab. Address	Bldg #115, Al Imam Al Bukhari St., Al Basateen, Jeddah, KSA	Testing Location	ACES Lab - Jeddah

Dimensions:

Type	Size	Block						Dimensions		
		No.	Length (mm)	Width (mm)	Height (mm)	Web (mm)	Face (mm)			
Solid Block	400x100x200	1	400.0	100.0	200.0	-	-			
	400x100x200	2	400.0	100.0	200.0	-	-			
	400x100x200	3	400.0	100.0	200.0	-	-			

Test Results by Measured Dimensions:

Type	Size	Block	Dimensions			Net Area (mm²)	Dry Density (Kg/m³)	Maximum Load KN	Weight (g)	Compressive Strength (Individual) (Mpa)
		No.	Length (mm)	Width (mm)	Height (mm)					
Solid Block	400x100x200	1	400	100	200	38900	2150.1	583.9	17114	15.0
	400x100x200	2	400	100	200	36760	2173.0	486.5	16360	13.2
	400x100x200	3	400	100	200	38085	2218.5	601.1	16898	15.8
Average										14.7

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شركة ذات مسؤولية محدودة - رأس المال المدفوع ٥٠٠٠٠٠٠٠ ريال

اختبار مقاومة الحريق - بلوك مفرغ معزول 200×300×400 مم

مختبرات ACES - ACI 216 ديسمبر 2022

تقرير اختبار



Partners for Quality Construction

Arab Company الشركة العربية
For Laboratories and Soil للمختبرات والتربة

Concrete Block Test Report For Fire Resistance

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	27-Dec-2022
Consultant	N.P	Sample No.	7
Project No.	N.P	Request No.	NO.94
Project Name	Private	Client Reference	Verbal
Sample Description	400x300x200 mm - Hollow Block Isolated SIDE	Sample ID	7/1
Sample Description	N.P	Sampled By	ACES's Rep.
Location	Jeddah	Sampling Date	5-Dec-2022
Test Method	ACI 216 (Calculation Method)	Sample Brt. In By	ACES's Rep.
Test Method Var.	N.P	Date Received	5-Dec-2022
Tested By	ACES' Rep	Date Tested	6-Dec-2022

Test Results Of Fire Resistance

Type	Block	Dimensions					Fire Resistance (Hours)
	No.	Length (mm)	Width (mm)	Height (mm)	Face (mm)	Web (mm)	
Hollow Block	1	400	300	200	36.2	32.6	4.21
	2	400	300	200	36.4	29.7	4.39
	3	400	300	200	34.6	29.0	4.20
Average							4.27

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اختبار امتصاص الماء - بلوك مفرغ معزول 200×300×400 مم

مختبرات ACES - ASTM C140 ديسمبر 2022

تقرير اختبار



Arab Company الشركة العربية
For Laboratories and Soil للمختبرات والتربة

Concrete Block Test Report For Water Absorption

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	27-Dec-2022
Consultant	N.P	Sample No.	7
Project No.	N.P.	Request No.	NO.94
Project Name	Private	Client Reference	Verbal
Sample Description	400x300x200 mm - Hollow Block Isolated SIDE	Sample ID	7/1
Supplier	N.P	Sampled By	ACES's Rep.
Location	Jeddah	Sample Brt. In By	ACES's Rep.
Test Method	ASTM C140/C140M-20a	Date Received	5-Dec-2022
Tested By	ACES	Date Tested	7-Dec-2022

Test Results Of Water Absorption:

Type	Block No.	Dimensions				Dry Wg.	SSD Wg.	Water Absorption %
		Length (mm)	Width (mm)	Height (mm)				
Hollow Block	1	400.0	300.0	200.0		32031	32887	2.7
	2	400.0	300.0	200.0		32703	33562	2.6
	3	400.0	300.0	200.0		32069	32918	2.6

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اختبار مقاومة الضغط والأبعاد · بلوك مفرغ معزول 200×300×400 مم

مختبرات ACES · ASTM C140 · ديسمبر 2022

تقرير اختبار



Arab Company الشركة العربية
For Laboratories and Soil للمختبرات والتربة

Concrete Blocks Test Report

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	27/12/2022
Consultant	N.P	Sample No.	7
Project No.	N.P	temporary reference number	NO.94
Project Name	Private	Client Reference	N.P.
Sample Description	400x300x200 mm - Hollow Block Isolated SIDE	Sample ID	7/1
Supplier	N.P	Sampled By	ACES's Rep.
Location	Jeddah	Sample Brt. In By	ACES's Rep.
Test Method	ASTM C140	Sampling Date	05/12/2022
Test Method Var.	N.P	Date Received	05/12/2022
Tested By	ACES's Rep.	Date Tested	06/12/2022

Dimensions:

Type	Size	Block Dimensions					
		No.	Length (mm)	Width (mm)	Height (mm)	Web (mm)	Face (mm)
Hollow Block	400x300x200	1	400.0	300.0	200.0	36.2	32.6
	400x300x200	2	400.0	300.0	200.0	36.4	29.7
	400x300x200	3	400.0	300.0	200.0	34.6	29.0

Test Results by Measured Dimensions:

Type	Size	Block Dimensions				Net Area (mm ²)	Dry Density (Kg/m ³)	Maximum Load KN	Weight (g)	Compressive Strength (Individual) (Mpa)
		No.	Length (mm)	Width (mm)	Height (mm)					
Hollow Block	400x300x200	1	400	300	200	66825	2384.7	689.0	32031	10.3
	400x300x200	2	400	300	200	68870	2292.8	652.0	32703	9.5
	400x300x200	3	400	300	200	66645	2389.8	725.0	32069	10.9
Average										10.2

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شركة ذات مسؤولية محدودة - رأس المال المدفوع ٥٦٦١٥٠٠٠٠ ريال

اختبار مقاومة الحريق - بلوك مفرغ (جهة واحدة) 200x250x400 مم

مختبرات ACES - ACI 216 - ديسمبر 2022

تقرير اختبار



الشركة العربية
Arab Company
For Laboratories and Soil

Concrete Block Test Report For Fire Resistance

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	27-Dec-2022
Consultant	N.P	Sample No.	6
Project No.	N.P	Request No.	NO.94
Project Name	Private	Client Reference	Verbal
Sample Description	400x250x200 mm - Hollow Block One SIDE	Sample ID	6/1
Sample Description	N.P	Sampled By	ACES's Rep.
Location	Jeddah	Sampling Date	5-Dec-2022
Test Method	ACI 216 (Calculation Method)	Sample Brt. In By	ACES's Rep.
Test Method Var.	N.P	Date Received	5-Dec-2022
Tested By	ACES' Rep	Date Tested	6-Dec-2022

Test Results Of Fire Resistance

Type	Block	Dimensions					Fire Resistance (Hours)
	No.	Length (mm)	Width (mm)	Height (mm)	Face (mm)	Web (mm)	
Hollow Block	1	400	250	200	27.8	29.5	2.79
	2	400	250	200	26.8	29.7	2.75
	3	400	250	200	26.8	29.0	2.82
Average							2.78

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اختبار امتصاص الماء - بلوك مفرغ (جهة واحدة) 200x250x400 مم

مختبرات ACES - ASTM C140 ديسمبر 2022

تقرير اختبار



Arab Company الشركة العربية
For Laboratories and Soil للمختبرات والتربة

Concrete Block Test Report For Water Absorption

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	27-Dec-2022
Consultant	N.P.	Sample No.	6
Project No.	N.P.	Request No.	NO.94
Project Name	Private	Client Reference	Verbal
Sample Description	400x250x200 mm - Hollow Block One SIDE	Sample ID	6/1
Supplier	N.P.	Sampled By	ACES's Rep.
Location	Jeddah	Sample Brt. In By	ACES's Rep.
Test Method	ASTM C140/C140M-20a	Date Received	5-Dec-2022
Tested By	ACES	Date Tested	7-Dec-2022

Test Results Of Water Absorption:

Type	Block No.	Dimensions				Dry Wg.	SSD Wg.	Water Absorption %
		Length (mm)	Width (mm)	Height (mm)				
Hollow Block	1	400.0	250.0	200.0		22838	23712	3.8
	2	400.0	250.0	200.0		22782	23556	3.4
	3	400.0	250.0	200.0		22607	23482	3.9

Notes:-

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*Test results shall not be interpreted, reproduced or quoted in a whole or in part without prior written approval of ACES

Arab Company For Laboratories and Soil

Eng. Yazan Baraka
Materials Engineer

Arab Company For Laboratories and Soil

Eng. Mahmoud Jaber
Head of Materials Section



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ACES Khobar: C.R. 2051037267 C.C No.98216
ACES Madinah: C.R. 4650078095 C.C No.203001171492
ACES Makkah: C.R. 4031215193 C.C No.
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شركة ذات مسؤولية محدودة - رأس المال المدفوع ٥٦٦٢٥٠٠٠٠ ريال

اختبار مقاومة الضغط والأبعاد · بلوك مفرغ (جهة واحدة) 200×250×400 مم

مختبرات ACES · ASTM C140 · ديسمبر 2022

تقرير اختبار



الشركة العربية
Arab Company
For Laboratories and Soil
للمختبرات والتربة

Concrete Blocks Test Report

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	21/12/2022
Consultant	N.P	Sample No.	6
Project No.	N.P	temporary reference number	NO.94
Project Name	Private	Client Reference	N.P.
Sample Description	400x250x200 mm - Hollow Block One SIDE	Sample ID	6/1
Supplier	N.P	Sampled By	ACES's Rep.
Location	Jeddah	Sample Brt. In By	ACES's Rep.
Test Method	ASTM C140	Sampling Date	05/12/2022
Test Method Var.	N.P	Date Received	05/12/2022
Tested By	ACES's Rep.	Date Tested	06/12/2022

Dimensions:

Type	Size	Block					
		No.	Length (mm)	Width (mm)	Height (mm)	Web (mm)	Face (mm)
Hollow Block	400x250x200	1	400.0	250.0	200.0	27.8	29.45
	400x250x200	2	400.0	250.0	200.0	26.8	29.65
	400x250x200	3	400.0	250.0	200.0	26.8	28.95

Test Results by Measured Dimensions:

Type	Size	Block				Net Area (mm ²)	Dry Density (Kg/m ³)	Maximum Load KN	Weight (g)	Compressive Strength (Individual) (Mpa)
		No.	Length (mm)	Width (mm)	Height (mm)					
Hollow Block	400x250x200	1	400	250	200	50460	2245.7	501.9	22838	10
	400x250x200	2	400	250	200	50070	2257.6	467.3	22782	9.3
	400x250x200	3	400	250	200	50815	2212.1	526.2	22607	10.4
Average										9.9

Notes

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Arab Company For Laboratories and Soil

Eng. HASSAN AL-ZHRANI
Materials Engineer

Arab Company For Laboratories and Soil

Eng. Mahmoud Jaber
Head of Materials Section

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شركة ذات مسؤولية محدودة - رأس المال المدفوع ١٠٠٠٠٠٠٠٠ ريال

اختبار مقاومة الحريق - بلوك مفرغ معزول (جهة واحدة) 200x250x400 مم

مختبرات ACES - ACI 216 - ديسمبر 2022

تقرير اختبار



Arab Company الشركة العربية
For Laboratories and Soil للمختبرات والتربة

Concrete Block Test Report For Fire Resistance

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	27-Dec-2022
Consultant	N.P	Sample No.	5
Project No.	N.P	Request No.	NO.94
Project Name	Private	Client Reference	Verbal
Sample Description	400x250x200 mm - Hollow Block Isolated SIDE	Sample ID	5/1
Sample Description	N.P	Sampled By	ACES's Rep.
Location	Jeddah	Sampling Date	5-Dec-2022
Test Method	ACI 216 (Calculation Method)	Sample Brt. In By	ACES's Rep.
Test Method Var.	N.P	Date Received	5-Dec-2022
Tested By	ACES' Rep	Date Tested	6-Dec-2022

Test Results Of Fire Resistance

Type	Block	Dimensions					Fire Resistance (Hours)
	No.	Length (mm)	Width (mm)	Height (mm)	Face (mm)	Web (mm)	
Hollow Block	1	400	250	200	33.8	30.5	3.31
	2	400	250	200	33.6	30.4	3.34
	3	400	250	200	34.1	30.5	3.33
Average							3.32

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Arab Company For Laboratories and Soil

Eng. Yazan Baraka
Materials Engineer

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Eng. Mahmoud Jaber
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شركة ذات مسؤولية محدودة - رأس المال المدفوع ٥٠٠٠٠٠٠٠٠ ريال

اختبار امتصاص الماء - بلوك مفرغ معزول (جهة واحدة) 200×250×400 مم

مختبرات ACES - ASTM C140 ديسمبر 2022

تقرير اختبار



Arab Company الشركة العربية
For Laboratories and Soil للمختبرات والتربة

Concrete Block Test Report For Water Absorption

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	27-Dec-2022
Consultant	N.P	Sample No.	5
Project No.	N.P.	Request No.	NO.94
Project Name	Private	Client Reference	Verbal
Sample Description	400x250x200 mm - Hollow Block Isolated SIDE	Sample ID	5/1
Supplier	N.P	Sampled By	ACES's Rep.
Location	Jeddah	Sample Brt. In By	ACES's Rep.
Test Method	ASTM C140/C140M-20a	Date Received	5-Dec-2022
Tested By	ACES	Date Tested	7-Dec-2022

Test Results Of Water Absorption:

Type	Block No.	Dimensions				Dry Wg.	SSD Wg.	Water Absorption %
		Length (mm)	Width (mm)	Height (mm)				
Hollow Block	1	400.0	250.0	200.0		28212	29108	3.2
	2	400.0	250.0	200.0		27882	28707	3.0
	3	400.0	250.0	200.0		27912	28814	3.2

Notes:-

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Arab Company For Laboratories and Soil

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Eng. Mahmoud Jaber
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شركة ذات مسؤولية محدودة - رأس المال المدفوع ٥٠٠٠٠٠٠٠ ريال

اختبار مقاومة الضغط والأبعاد · بلوك مفرغ معزول (جهة واحدة) 200×250×400 مم

مختبرات ACES · ASTM C140 · ديسمبر 2022

تقرير اختبار



Arab Company الشركة العربية
For Laboratories and Soil للمختبرات والتربة

Concrete Blocks Test Report

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	27/12/2022
Consultant	N.P	Sample No.	5
Project No.	N.P	temporary reference number	NO.94
Project Name	Private	Client Reference	N.P.
Sample Description	400x250x200 mm - Hollow Block Isolated SIDE	Sample ID	5/1
Supplier	N.P	Sampled By	ACES's Rep.
Location	Jeddah	Sample Brt. In By	ACES's Rep.
Test Method	ASTM C140	Sampling Date	05/12/2022
Test Method Var.	N.P	Date Received	05/12/2022
Tested By	ACES's Rep.	Date Tested	06/12/2022

Dimensions:

Type	Size	Block					
		No.	Length (mm)	Width (mm)	Height (mm)	Web (mm)	Face (mm)
Hollow Block	400x250x200	1	400.0	250.0	200.0	33.8	30.5
	400x250x200	2	400.0	250.0	200.0	33.6	30.35
	400x250x200	3	400.0	250.0	200.0	34.1	30.45

Test Results by Measured Dimensions:

Type	Size	Block				Net Area (mm ²)	Dry Density (Kg/m ³)	Maximum Load KN	Weight (g)	Compressive Strength (Individual) (Mpa)
		No.	Length (mm)	Width (mm)	Height (mm)					
Hollow Block	400x250x200	1	400	250	200	56435	2481.5	525.7	28212	9.3
	400x250x200	2	400	250	200	56765	2433.3	600.2	27882	10.6
	400x250x200	3	400	250	200	56665	2457.9	628.4	27912	11.1
Average										10.3

Notes

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Arab Company For Laboratories and Soil

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Materials Engineer

Arab Company For Laboratories and Soil

Eng. Mahmoud Jaber
Head of Materials Section

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شركة ذات مسؤولية محدودة - رأس المال المدفوع ٥٦٦٢٥٠٠٠ ريال

اختبار مقاومة الحريق - بلوك مفرغ (جهة واحدة) 200x200x400 مم

مختبرات ACES - ACI 216 ديسمبر 2022

تقرير اختبار



Arab Company الشركة العربية
For Laboratories and Soil للمختبرات والتربة

Concrete Block Test Report For Fire Resistance

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	27-Dec-2022
Consultant	N.P	Sample No.	4
Project No.	N.P	Request No.	NO.94
Project Name	Private	Client Reference	Verbal
Sample Description	400x200x200 mm - Hollow Block One SIDE	Sample ID	4/1
Sample Description	N.P	Sampled By	ACES's Rep.
Location	Jeddah	Sampling Date	5-Dec-2022
Test Method	ACI 216 (Calculation Method)	Sample Brt. In By	ACES's Rep.
Test Method Var.	N.P	Date Received	5-Dec-2022
Tested By	ACES' Rep	Date Tested	6-Dec-2022

Test Results Of Fire Resistance

Type	Block	Dimensions					Fire Resistance (Hours)
	No.	Length (mm)	Width (mm)	Height (mm)	Face (mm)	Web (mm)	
Hollow Block	1	400	200	200	32.5	31.3	2.42
	2	400	200	200	30.9	30.8	2.41
	3	400	200	200	31.8	30.7	2.26
Average							2.36

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Materials Engineer

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اختبار امتصاص الماء - بلوك مفرغ (جهة واحدة) 200×200×400 مم

مختبرات ACES - ASTM C140 - ديسمبر 2022

تقرير اختبار



Arab Company الشركة العربية
For Laboratories and Soil للمختبرات والتربة

Concrete Block Test Report For Water Absorption

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	27-Dec-2022
Consultant	N.P	Sample No.	4
Project No.	N.P.	Request No.	NO.94
Project Name	Private	Client Reference	Verbal
Sample Description	400x200x200 mm - Hollow Block One SIDE	Sample ID	4/1
Supplier	N.P	Sampled By	ACES's Rep.
Location	Jeddah	Sample Brt. In By	ACES's Rep.
Test Method	ASTM C140/C140M-20a	Date Received	5-Dec-2022
Tested By	ACES	Date Tested	7-Dec-2022

Test Results Of Water Absorption:

Type	Block No.	Dimensions				Dry Wg.	SSD Wg.	Water Absorption %
		Length (mm)	Width (mm)	Height (mm)				
Hollow Block	1	400.0	200.0	200.0		20527	21453	4.5
	2	400.0	200.0	200.0		20656	21446	3.8
	3	400.0	200.0	200.0		19944	20772	4.2

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Arab Company For Laboratories and Soil

Eng. Yazan Baraka
Materials Engineer

Arab Company For Laboratories and Soil

Eng. Mahmoud Jaber
Head of Materials Section



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ACES Tabuk: C.R. 3550126653

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شركة ذات مسؤولية محدودة - رأس المال المدفوع ١٠٠٠٠٠٠٠٠٠٠٠٠ ريال

اختبار مقاومة الضغط والأبعاد · بلوك مفرغ (جهة واحدة) 200×200×400 مم

مختبرات ACES · ASTM C140 · ديسمبر 2022

تقرير اختبار



الشركة العربية
Arab Company
For Laboratories and Soil
للمختبرات والتربة

Concrete Blocks Test Report

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	27/12/2022
Consultant	N.P	Sample No.	4
Project No.	N.P	temporary reference number	NO.94
Project Name	Private	Client Reference	N.P.
Sample Description	400x200x200 mm - Hollow Block One SIDE	Sample ID	4/1
Supplier	N.P	Sampled By	ACES's Rep.
Location	Jeddah	Sample Brt. In By	ACES's Rep.
Test Method	ASTM C140	Sampling Date	05/12/2022
Test Method Var.	N.P	Date Received	05/12/2022
Tested By	ACES's Rep.	Date Tested	06/12/2022

Dimensions:

Type	Size	Block Dimensions					
		No.	Length (mm)	Width (mm)	Height (mm)	Web (mm)	Face (mm)
Hollow Block	400x200x200	1	400.0	200.0	200.0	32.5	31.3
	400x200x200	2	400.0	200.0	200.0	30.9	30.8
	400x200x200	3	400.0	200.0	200.0	31.8	30.65

Test Results by Measured Dimensions:

Type	Size	Block No.	Dimensions			Net Area (mm ²)	Dry Density (Kg/m ³)	Maximum Load KN	Weight (g)	Compressive Strength (Individual) (Mpa)
			Length (mm)	Width (mm)	Height (mm)					
Hollow Block	400x200x200	1	400	200	200	46315	2195.0	581.2	20527	12.5
	400x200x200	2	400	200	200	46125	2215.4	492.6	20656	11
	400x200x200	3	400	200	200	44425	2219.7	532.4	19944	12.0
Average										11.7

Notes

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Eng. HASSAN AL-ZHRANI
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Eng. Mahmoud Jaber
Head of Materials Section

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شركة ذات مسؤولية محدودة - رأس المال المدفوع ٥١٦٢٥٠٠٠ ريال

اختبار مقاومة الحريق - بلك مفرّغ (جهة واحدة) 200×150×400 مم

مختبرات ACI 216 · ACES · ديسمبر 2022

تقرير اختبار



Partners for Quality Construction

Arab Company **الشركة العربية**
For Laboratories and Soil للمختبرات والتربة

Concrete Block Test Report For Fire Resistance

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	27-Dec-2022
Consultant	N.P	Sample No.	3
Project No.	N.P	Request No.	NO.94
Project Name	Private	Client Reference	Verbal
Sample Description	400x150x200 mm - Hollow Block One SIDE	Sample ID	3/1
Sample Description	N.P	Sampled By	ACES's Rep.
Location	Jeddah	Sampling Date	5-Dec-2022
Test Method	ACI 216 (Calculation Method)	Sample Brt. In By	ACES's Rep.
Test Method Var.	N.P	Date Received	5-Dec-2022
Tested By	ACES' Rep	Date Tested	6-Dec-2022

Test Results Of Fire Resistance

[illegible]

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Arab Company For Laboratories and Soil

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Materials Engineer

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Eng. Mahmoud Jaber
Head of Materials Section



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شركة ذات مسؤولية محدودة - رأس المال المدفوع ٥٦٦٢٥٠٠٠٠ ريال



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اختبار امتصاص الماء - بلوك مفرغ (جهة واحدة) 200×150×400 مم

مختبرات ACES - ASTM C140 - ديسمبر 2022

تقرير اختبار



Partners for Quality Construction

Arab Company الشركة العربية
For Laboratories and Soil للمختبرات والتربة

Concrete Block Test Report For Water Absorption

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	21-Dec-2022
Consultant	N.P	Sample No.	3
Project No.	N.P.	Request No.	NO.94
Project Name	Private	Client Reference	Verbal
Sample Description	400x150x200 mm - Hollow Block One SIDE	Sample ID	3/1
Supplier	N.P	Sampled By	ACES's Rep.
Location	Jeddah	Sample Brt. In By	ACES's Rep.
Test Method	ASTM C140/C140M-20a	Date Received	5-Dec-2022
Tested By	ACES	Date Tested	7-Dec-2022

Test Results Of Water Absorption:

Type	Block No.	Dimensions				Dry Wg.	SSD Wg.	Water Absorption %
		Length (mm)	Width (mm)	Height (mm)				
Hollow Block	1	400.0	150.0	200.0		17404	18331	5.3
	2	400.0	150.0	200.0		18001	18882	4.9
	3	400.0	150.0	200.0		17930	18872	5.3

Notes:-

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Arab Company For Laboratories and Soil

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شركة ذات مسؤولية محدودة - رأس المال المدفوع ٥٠٠٠٠٠٠٠٠ ريال

اختبار مقاومة الضغط والأبعاد · بلوك مفرغ (جهة واحدة) 200×150×400 مم

مختبرات ACES · ASTM C140 · ديسمبر 2022

تقرير اختبار



الشركة العربية
Arab Company
For Laboratories and Soil

Concrete Blocks Test Report

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	21/12/2022
Consultant	N.P	Sample No.	3
Project No.	N.P	temporary reference number	NO.94
Project Name	Private	Client Reference	N.P.
Sample Description	400x150x200 mm - Hollow Block One SIDE	Sample ID	3/1
Supplier	N.P	Sampled By	ACES's Rep.
Location	Jeddah	Sample Brt. In By	ACES's Rep.
Test Method	ASTM C140	Sampling Date	05/12/2022
Test Method Var.	N.P	Date Received	05/12/2022
Tested By	ACES's Rep.	Date Tested	06/12/2022

Dimensions:

Type	Size	Block Dimensions					
		No.	Length (mm)	Width (mm)	Height (mm)	Web (mm)	Face (mm)
Hollow Block	400x150x200	1	400.0	150.0	200.0	30.7	30.8
	400x150x200	2	400.0	150.0	200.0	31.1	31.3
	400x150x200	3	400.0	150.0	200.0	31.1	30.85

Test Results by Measured Dimensions:

Type	Size	Block Dimensions				Net Area (mm ²)	Dry Density (Kg/m ³)	Maximum Load KN	Weight (g)	Compressive Strength (Individual) (Mpa)
		No.	Length (mm)	Width (mm)	Height (mm)					
Hollow Block	400x150x200	1	400	150	200	40695	2105.0	599.8	17404	14.7
	400x150x200	2	400	150	200	41994	2129.6	662.1	18001	15.8
	400x150x200	3	400	150	200	42600	2090.1	648.2	17930	15.2
Average										15.2

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Arab Company For Laboratories and Soil

Yazan Baraka
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اختبار مقاومة الحريق - بلوك مفرغ (جهتين) 200x200x400 مم

مختبرات ACES - ACI 216 ديسمبر 2022

تقرير اختبار



Arab Company الشركة العربية
For Laboratories and Soil للمختبرات والتربة

Concrete Block Test Report For Fire Resistance

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	27-Dec-2022
Consultant	N.P	Sample No.	2
Project No.	N.P	Request No.	NO.94
Project Name	Private	Client Reference	Verbal
Sample Description	400x200x200 mm - Hollow Block BOTH SIDE	Sample ID	2/1
Sample Description	N.P	Sampled By	ACES's Rep.
Location	Jeddah	Sampling Date	5-Dec-2022
Test Method	ACI 216 (Calculation Method)	Sample Brt. In By	ACES's Rep.
Test Method Var.	N.P	Date Received	5-Dec-2022
Tested By	ACES' Rep	Date Tested	6-Dec-2022

Test Results Of Fire Resistance

Type	Block	Dimensions					Fire Resistance (Hours)
	No.	Length (mm)	Width (mm)	Height (mm)	Face (mm)	Web (mm)	
Hollow Block	1	400	200	200	26.2	25.1	2
	2	400	200	200	28.4	26.2	2
	3	400	200	200	25.9	27.3	2
Average							2

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Arab Company For Laboratories and Soil

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Materials Engineer

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مختبرات ACES · ASTM C140 · ديسمبر 2022

اختبار مقاومة الضغط والأبعاد · بلوك مفرغ (جهتين) 200×200×400 مم

مختبرات ACES · ASTM C140 · ديسمبر 2022

تقرير اختبار



Arab Company الشركة العربية
For Laboratories and Soil للمختبرات والتربة

Concrete Blocks Test Report

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	21/12/2022
Consultant	N.P	Sample No.	2
Project No.	N.P	temporary reference number	NO.94
Project Name	Private	Client Reference	N.P.
Sample Description	400x200x200 mm - Hollow Block BOTH SIDE	Sample ID	2/1
Supplier	N.P	Sampled By	ACES's Rep.
Location	Jeddah	Sample Brt. In By	ACES's Rep.
Test Method	ASTM C140	Sampling Date	05/12/2022
Test Method Var.	N.P	Date Received	05/12/2022
Tested By	ACES's Rep.	Date Tested	06/12/2022

Dimensions:

Type	Size	Block Dimensions					
		No.	Length (mm)	Width (mm)	Height (mm)	Web (mm)	Face (mm)
Hollow Block	400x200x200	1	400.0	200.0	200.0	26.2	25.1
	400x200x200	2	400.0	200.0	200.0	28.4	26.2
	400x200x200	3	400.0	200.0	200.0	25.9	27.3

Test Results by Measured Dimensions:

Type	Size	Block No.	Dimensions			Net Area (mm ²)	Dry Density (Kg/m ³)	Maximum Load KN	Weight (g)	Compressive Strength (individual) (Mpa)
			Length (mm)	Width (mm)	Height (mm)					
Hollow Block	400x200x200	1	400	200	200	36970	2177.0	387.5	16253	10.5
	400x200x200	2	400	200	200	38295	2204.1	567.3	17083	14.8
	400x200x200	3	400	200	200	38550	2205.2	501.2	17211	13.0
Average										12.8

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Yazan Baraka

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Eng. Mahmoud Jaber

Head of Materials Section

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اختبار مقاومة الحريق - بلوك مفرغ (جهتين) 200×150×400 مم

مختبرات ACES - ACI 216 ديسمبر 2022

تقرير اختبار



Arab Company الشركة العربية
For Laboratories and Soil للمختبرات والتربة

Concrete Block Test Report For Fire Resistance

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	27-Dec-2022
Consultant	N.P	Sample No.	1
Project No.	N.P	temporary reference number	NO.94
Project Name	Private	Client Reference	Verbal
Sample Description	400x150x200 mm - Hollow Block BOTH SIDE	Sample ID	1/1
Sample Description	N.P	Sampled By	ACES's Rep.
Location	Jeddah	Sampling Date	5-Dec-2022
Test Method	ACI 216 (Calculation Method)	Sample Brt. In By	ACES's Rep.
Test Method Var.	N.P	Date Received	5-Dec-2022
Tested By	ACES' Rep	Date Tested	6-Dec-2022

Test Results Of Fire Resistance

Type	Block	Dimensions					Fire Resistance (Hours)
	No.	Length (mm)	Width (mm)	Height (mm)	Face (mm)	Web (mm)	
Hollow Block	1	400	150	200	31.1	32.8	2
	2	400	150	200	31.3	32.5	2
	3	400	150	200	28.4	30.5	2
Average							2

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اختبار امتصاص الماء - بلوك مفرغ (جهتين) 200×150×400 مم

مختبرات ACES - ASTM C140 ديسمبر 2022

تقرير اختبار



Partners for Quality Construction

Arab Company الشركة العربية
For Laboratories and Soil للمختبرات والتربة

Concrete Block Test Report For Water Absorption

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	27-Dec-2022
Consultant	N.P	Sample No.	/1
Project No.	N.P.	temporary reference number	NO.94
Project Name	Private	Client Reference	Verbal
Sample Description	400x150x200 mm - Hollow Block BOTH SIDE	Sample ID	1/1
Supplier	N.P	Sampled By	ACES's Rep.
Location	Jeddah	Sample Brt. In By	ACES's Rep.
Test Method	ASTM C140/C140M-20a	Date Received	5-Dec-2022
Tested By	ACES	Date Tested	7-Dec-2022

Test Results Of Water Absorption:

Type	Block No.	Dimensions				Dry Wg.	SSD Wg.	Water Absorption %
		Length (mm)	Width (mm)	Height (mm)				
Hollow Block	1	400.0	150.0	200.0		17301	18211	5.3
	2	400.0	150.0	200.0		17206	18124	5.3
	3	400.0	150.0	200.0		16857	17682	4.9

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Arab Company For Laboratories and Soil

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Materials Engineer

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شركة ذات مسؤولية محدودة - رأس المال المدفوع ٥٦٦٢٥٠٠٠ ريال

اختبار مقاومة الضغط والأبعاد · بلوك مفرغ (جهتين) 200×150×400 مم

مختبرات ACES · ASTM C140 · ديسمبر 2022

تقرير اختبار



Partners for Quality Construction

الشركة العربية
Arab Company
For Laboratories and Soil

للمختبرات والتربة

Concrete Blocks Test Report

Client	Riyadh block factory	Report No.	-
Contractor	Riyadh block factory	Date Reported	27/12/2022
Consultant	N.P	Sample No.	1
Project No.	N.P	temporary reference number	NO.94
Project Name	Private	Client Reference	N.P.
Sample Description	400x150x200 mm - Hollow Block BOTH SIDE	Sample ID	1/1
Supplier	N.P	Sampled By	ACES's Rep.
Location	Jeddah	Sample Brt. In By	ACES's Rep.
Test Method	ASTM C140	Sampling Date	05/12/2022
Test Method Var.	N.P	Date Received	05/12/2022
Tested By	ACES's Rep.	Date Tested	06/12/2022

Dimensions:

Type	Size	Block					
		No.	Length (mm)	Width (mm)	Height (mm)	Web (mm)	Face (mm)
Hollow Block	400x150x200	1	400.0	150.0	200.0	31.1	32.8
	400x150x200	2	400.0	150.0	200.0	31.3	32.5
	400x150x200	3	400.0	150.0	200.0	28.4	30.5

Test Results by Measured Dimensions:

Type	Size	Block				Net Area (mm ²)	Dry Density (Kg/m ³)	Maximum Load KN	Weight (g)	Compressive Strength (Individual) (Mpa)
		No.	Length (mm)	Width (mm)	Height (mm)					
Hollow Block	400x150x200	1	400	150	200	39640	2182.3	536.7	17301	13.5
	400x150x200	2	400	150	200	39260	2191.3	512.5	17206	13.1
	400x150x200	3	400	150	200	37790	2230.4	570.2	16857	15.1
Average										13.9

Notes

* Test results represent the tested items only.

* Test results shall not be interpreted, reproduced or quoted in a whole or in part without prior written approval of

* ACES is responsible for all information provided in the report which resulted from our activities but except for any information provided by the Customer or resulted from activities performed by another entity.

Arab Company For Laboratories and Soil

Eng. HASSAN AL-ZAHIRANI
Materials Engineer

Arab Company For Laboratories and Soil

Eng. Mahmoud Jaber
Head of Materials Section

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شركة ذات مسؤولية محدودة - رأس المال المدفوع ٥٠٠٠٠٠٠٠ ريال

اختبار مقاومة الضغط - ASTM C140 - عينة 1

مختبرات RGF - نوفمبر 2022

تقرير اختبار

rgf As ERI Company

شركة الرياض للجيوتقنية والأساسات
C.R. 1010166285
Limited Liability Company / Capital 6,000,000 S.R.
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Location: Garnatha St. near Arbreen St. intersection, Mushrefah District, Jeddah

TEST REPORT

CONCRETE BLOCK TEST RESULTS

ASTM C140-14a

CLIENT	: Riyadh Block Factory	LAB. REF. NO.:	22/000636/PJ
PROJECT	: --	SAMPLING DATE:	-
SUPPLIER NAME:	Riyadh Block Factory	TESTING DATE:	16.11.2022
SAMPLE NO.:	1	REPORT DATE:	16.11.2022

Required Limit	
ASTM C129-05	
Normal Weight Class (200mm)	
Non Load Bearing	

REFERENCE No.	1	2	3	
FACE SHELL THICKNESS	m	22	22	22
WEB THICKNESS	m	22	22	22
DIMENSIONS	LENGTH (L)	400	400	400
	WIDTH (W)	200	200	200
	HEIGHT (H)	200	200	200
AREA GROSS (cm ²)	GROSS	800.0	800.0	800.0
AREA NET (cm ²)	NET	316.4	316.4	316.4
LOAD (kN)		221.8	318.7	340.3
GROSS CRUSHING STRENGTH (MPa)		2.77	3.98	4.25
NET CRUSHING STRENGTH (MPa)		7.01	10.07	10.76
AVERAGE STRENGTH (GROSS) =		3.67 MPa		
AVERAGE STRENGTH (NET) =		9.28 MPa		3.45 Min.

REMARKS : 1- Non load bearing concrete masonry units with 03 No's of hollow one end is open.
2- The specimens were supplied by the Client

TESTED BY : Tariq

CHECKED BY/REVIEWED BY : Syed Asad Abbas

APPROVED BY : (LAB. INCHARGE)

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اختبار مقاومة الضغط - ASTM C140 - عينة 2

مختبرات RGF - نوفمبر 2022

تقرير اختبار



شركة الرياض للجيوتقنية والأساسات
CR 1010166285
Limited Liability Company / Capital 6,000,000 S.R.
مكتبة ذات مسؤولية محدودة / رأس المال ٦ مليون ريال
RIYADH GEOTECHNIQUE & FOUNDATIONS CO.

P.O. Box 9182, Jeddah 21413, KSA Telephone: +966 (12) 6715621 / 6176860 Fax: +966 (12) 6715426 Email: rgf-wp@erigeosciences.com
Location: Gamatha St. near Arbaeen St. intersection, Mushrefah District, Jeddah

TEST REPORT CONCRETE BLOCK TEST RESULTS ASTM C140-14a

CLIENT : Riyadh Block Factory LAB. REF. NO. : 22/000636/PJ
PROJECT : -- SAMPLING DATE : --
SUPPLIER NAME: Riyadh Block Factory TESTING DATE : 16.11.2022
SAMPLE NO. : 2 REPORT DATE : 16.11.2022

Required Limit

ASTM C129-05

Normal Weight Class (200mm)

Non Load Bearing

REFERENCE No.	1	2	3	
FACE SHELL THICKNESS m	30	30	30	
WEB THICKNESS m	30	30	30	
DIMENSIONS (mm)	LENGTH (L)	400	400	400
	WIDTH (W)	150	150	150
	HEIGHT (H)	200	200	200
AREA GROSS (cm ²) GROSS	600.0	600.0	600.0	
AREA NET (cm ²) NET	348.0	348.0	348.0	
LOAD (kN)	356.5	465.8	451.3	
GROSS CRUSHING STRENGTH (MPa)	5.94	7.76	7.52	
NET CRUSHING STRENGTH (MPa)	10.24	13.39	12.97	
AVERAGE STRENGTH (GROSS) =	7.08 MPa			
AVERAGE STRENGTH (NET) =	12.20 MPa			3.45 Min.

REMARKS : 1- Non load bearing concrete masonry units with 03 No's of hollow one end is open.
2- The specimens were supplied by the Client

TESTED BY : Tariq CHECKED BY/REVIEWED BY : Syed Asad Abbas

APPROVED BY :
(LAB. INCHARGE)

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4

اختبار مقاومة الضغط - ASTM C140 - عينة 3

مختبرات RGF - نوفمبر 2022

تقرير اختبار



An ERI Company



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مستوى مسؤولية محدودة / رأس المال ٨ مليون ريال
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Location: Garnatha St. near Arbacen St. intersection, Mushrefah District, Jeddah

TEST REPORT

CONCRETE BLOCK TEST RESULTS

ASTM C140-14a

CLIENT : Riyadh Block Factory LAB. REF. NO. : 22/000636/PJ
PROJECT : -- SAMPLING DATE : --
SUPPLIER NAME: Riyadh Block Factory TESTING DATE : 16.11.2022
SAMPLE NO. : 3 REPORT DATE : 16.11.2022

Required Limit

ASTM C129-05

Normal Weight Class (200mm)

Non Load Bearing

REFERENCE No.	1	2	3
FACE SHELL THICKNESS m	30	30	30
WEB THICKNESS m	30	30	30
DIMENSIONS (mm)			
LENGTH (L)	400	400	400
WIDTH (W)	100	100	100
HEIGHT (H)	200	200	200
AREA GROSS (cm ²) GROSS	400.0	400.0	400.0
AREA NET (cm ²) NET	288.8	288.8	288.8
LOAD (kN)	317.2	314.7	351.3
GROSS CRUSHING STRENGTH (MPa)	7.93	7.87	8.78
NET CRUSHING STRENGTH (MPa)	10.98	10.90	12.16
AVERAGE STRENGTH (GROSS) =	8.19 MPa		
AVERAGE STRENGTH (NET) =	11.35 MPa		3.45 Min.

REMARKS : 1- Non load bearing concrete masonry units with 03 No's of hollow one end is open.
2- The specimens were supplied by the Client

TESTED BY : Tariq CHECKED BY/REVIEWED BY : Syed Asad Abbas

APPROVED BY : (LAB. INCHARGE)

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اختبار مقاومة الضغط - ASTM C140 - عينة 4

مختبرات RGF - نوفمبر 2022

تقرير اختبار



An ERI Company



CR 1010166285

Limited Liability Company / Capital 6 000 000 S.R.

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Location: Garnatha St. near Arbacen St. intersection, Mushrefah District, Jeddah

TEST REPORT

CONCRETE BLOCK TEST RESULTS

ASTM C140-14a

CLIENT : Riyadh Block Factory LAB. REF. NO. : 22/000636/PJ
PROJECT : -- SAMPLING DATE : --
SUPPLIER NAME: Riyadh Block Factory TESTING DATE : 16.11.2022
SAMPLE NO. : 4 REPORT DATE : 16.11.2022

Required Limit

ASTM C129-05

Normal Weight Class (200mm)

Non Load Bearing

REFERENCE No.		1	2	3	
FACE SHELL THICKNESS	m	31	31	31	
WEB THICKNESS	m	31	31	31	
DIMENSIONS (mm)	LENGTH (L)	400	400	400	
	WIDTH (W)	200	200	200	
	HEIGHT (H)	200	200	200	
AREA GROSS (cm ²)	GROSS	800.0	800.0	800.0	
AREA NET (cm ²)	NET	420.5	420.5	420.5	
LOAD (kN)		659.8	709.6	680.8	
GROSS CRUSHING STRENGTH (MPa)		8.25	8.87	8.51	
NET CRUSHING STRENGTH (MPa)		15.69	16.88	16.19	
AVERAGE STRENGTH (GROSS) = 8.54 MPa					
AVERAGE STRENGTH (NET) = 16.25 MPa					3.45 Min.

REMARKS : 1- Non load bearing concrete masonry units with 03 No's of hollow one end is open.
2- The specimens were supplied by the Client

TESTED BY : Tariq CHECKED BY/REVIEWED BY : Syed Asad Abbas

APPROVED BY : (LAB. INCHARGE)

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اختبار مقاومة الضغط - ASTM C140 - عينة 4 (نسخة مصدقة)

مختبرات RGF - نوفمبر 2022

تقرير اختبار



An ERI Company



CR 1010166285

Limited Liability Company / Capital 6 000 000 S.R.

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Location: Garnatha St. near Arbacen St. intersection, Mushrefah District, Jeddah

TEST REPORT

CONCRETE BLOCK TEST RESULTS

ASTM C140-14a

CLIENT : Riyadh Block Factory LAB. REF. NO. : 22/000636/PJ
PROJECT : -- SAMPLING DATE : --
SUPPLIER NAME: Riyadh Block Factory TESTING DATE : 16.11.2022
SAMPLE NO. : 4 REPORT DATE : 16.11.2022

Required Limit

ASTM C129-05

Normal Weight Class (200mm)

Non Load Bearing

REFERENCE No.		1	2	3	
FACE SHELL THICKNESS	m	31	31	31	
WEB THICKNESS	m	31	31	31	
DIMENSIONS (mm)	LENGTH (L)	400	400	400	
	WIDTH (W)	200	200	200	
	HEIGHT (H)	200	200	200	
AREA GROSS (cm ²)	GROSS	800.0	800.0	800.0	
AREA NET (cm ²)	NET	420.5	420.5	420.5	
LOAD (kN)		659.8	709.6	680.8	
GROSS CRUSHING STRENGTH (MPa)		8.25	8.87	8.51	
NET CRUSHING STRENGTH (MPa)		15.69	16.88	16.19	
AVERAGE STRENGTH (GROSS) = 8.54 MPa					
AVERAGE STRENGTH (NET) = 16.25 MPa					3.45 Min.

REMARKS : 1- Non load bearing concrete masonry units with 03 No's of hollow one end is open.
2- The specimens were supplied by the Client

TESTED BY : Tariq CHECKED BY/REVIEWED BY : Syed Asad Abbas

APPROVED BY : (LAB. INCHARGE)

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اختبار مقاومة الضغط - مشروع هجر صيانة الطائرات

مختبرات RGF - يناير 2023

تقرير اختبار



An ERI Company



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Location: Garnatha St. near Arbaeen St. intersection, Mushrefah District, Jeddah

TEST REPORT

CONCRETE BLOCK TEST RESULTS

ASTM C140-14a

CLIENT : Riyadh Block Factory LAB. REF. NO. : 23/000024/PJ
PROJECT : New Air Craft Maintenance Hanger SAMPLING DATE : -
SUPPLIER NAME: Riyadh Block Factory TESTING DATE : 11.01.2023
SAMPLE NO. : 1 REPORT DATE : 11.01.2023

Required Limit

ASTM C129-05

Normal Weight Class (200mm)

Non Load Bearing

REFERENCE No.	1	2	3	
FACE SHELL THICKNESS (m)	42	42	42	
WEB THICKNESS (m)	42	42	42	
DIMENSIONS (mm)	LENGTH (L)	400	400	400
	WIDTH (W)	200	200	200
	HEIGHT (H)	200	200	200
AREA GROSS (cm ²)	GROSS	800.0	800.0	800.0
AREA NET (cm ²)	NET	485.6	485.6	485.6
LOAD (kN)		887.9	795.0	778.0
GROSS CRUSHING STRENGTH (MPa)		11.10	9.94	9.73
NET CRUSHING STRENGTH (MPa)		18.28	16.37	16.02
AVERAGE STRENGTH (GROSS) =	10.25 MPa			
AVERAGE STRENGTH (NET) =	16.89 MPa			3.45 Min.

REMARKS : 1- Non load bearing concrete masonry units with 02 No's of hollow one end is open.
2- The specimens were supplied by the Client

TESTED BY : Faiyaz Ahmad

CHECKED BY/REVIEWED BY : Syed Asad Abbas

APPROVED BY



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التحليل الكيميائي لمياه الخلط

مختبرات RGF - نوفمبر 2022

تقرير اختبار

TEST REPORT CHEMICAL ANALYSIS OF WATER

CLIENT :	RIYADH BLOCK FACTORY JEDDAH				
PROJECT :	-				
LOCATION :	-				
SAMPLE NO.:	01	RECEIVING DATE :	16.11.2022		
SAMPLED BY :	CLIENT	PROPOSED FOR :	Concrete		
ENV. CONDITION TEMP. :	25.5 °C	SAMPLING DATE :	13.11.2022		
LAB. REF. No. :	CHJ-22/232 (W-1)	HUMIDITY :	45%		
		REPORT DATE :	21.11.2022		
NO.	DESCRIPTION OF WORK	RESULT	UNIT	LIMITS	STANDARD
1	PH at 25° C	7.33	--	6.5~8.5	4500-H-B
2	Total Dissolved Solids (TDS)	113	mg/L	1000	2540-C
3	Sulfate (SO ₄)	2.00	mg/L	250	4500-SO ₄ -E
4	Chloride (Cl)	55	mg/L	250	4500-Cl-C
REMARKS :					

TESTED BY : Ibrahim

REVIEWED BY / CHECKED BY :

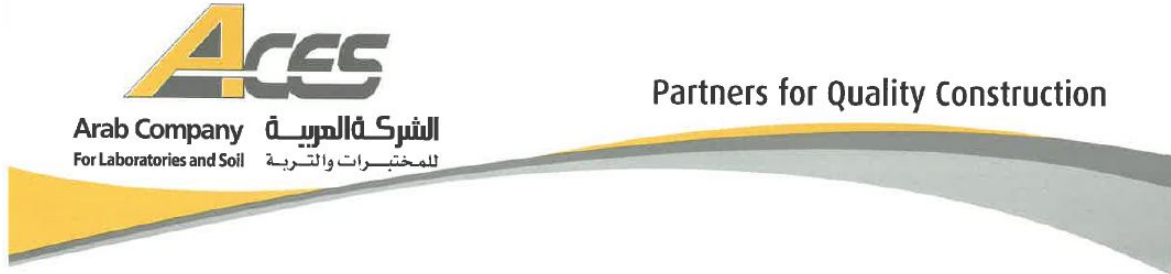
APPROVED BY 
Riyadh Geotechnique & Foundations Co.
مكتب جوده
C.R. 1010160783 1-1-1992

RGF-JED-CHE-WATER-02-00
01.01.2013

تقرير العزل الصوتي · بلوك مفرغ 20 سم · STC 47 · صفحة 1 من 5

مختبرات ACES · ASTM E90 · مايو 2019

تقرير اختبار



Riyadh Block Factory
Jeddah, KSA

Our ref : JMQ19002394-2
Date : 09 May 2019

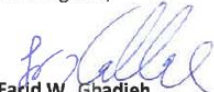
Attention : Mr. Mahmood
Email : sales@rbf.sa
Mobile : 055 508 0197
Subject : Sound Transmission Class Test - Hollow Block 20 cm

Dear Sir,

According to your request on April 29, 2019, acoustical analysis of Sound Transmission Class test was carried out by ACES on hollow concrete block. This report presents the results of acoustical testing the weight wall partitions.

In the event that additional information or clarifications are required, please contact our office at your convenience. We would like to take this opportunity to thank you for your confidence and look forward to be of service to you in the near future.

Kind regards,


Farid W. Ghadieh
Branch Manager – Jeddah
For Arab Company for Laboratories and Soil



ACES JEDDAH/ACES2019/JMR19002394-2

1 of 5

س.ت ٤٠٢٠١٥٧٥٨٦ رقم العضوية ١٠٦٩٢٤ ص.ب ١٣٢٩٠٥ جدة ٢١٢٨٢ هاتف ٩٦٦١٣٦٦٤١٤٢٢
فاكس ٩٦٦١٢٦٦٣٥٤٤٨ شركة ذات مسؤولية محدودة - رأس المال للدفع ٥٦٦٣٥٠٠٠ ريال
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Riyadh Tel: 011-2372222 | Al Khobar Tel: 013 8811841 | Najran Tel: 017 5239037 | Buraydah Tel: 016 3844575 | Madinah Tel: 14 8693326

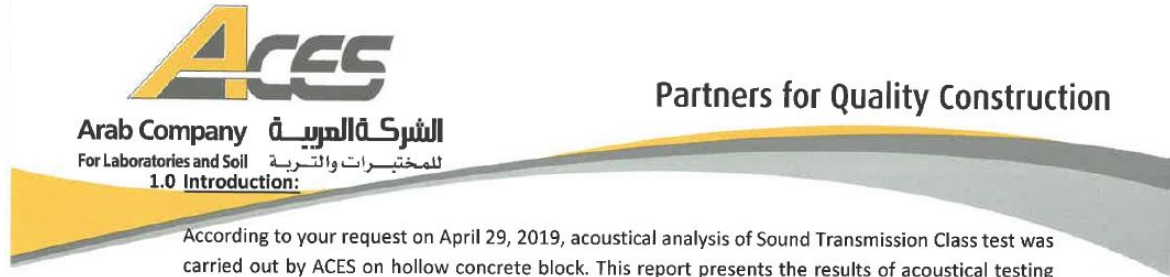


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تقرير العزل الصوتي · بلوك مفرّغ 20 سم · STC 47 · صفحة 2 من 5

مختبرات ACES · ASTM E90 · مايو 2019

تقرير اختبار



1.0 Introduction:

According to your request on April 29, 2019, acoustical analysis of Sound Transmission Class test was carried out by ACES on hollow concrete block. This report presents the results of acoustical testing the weight wall partitions.

2.0 Tests Carried Out

"Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements" was carried out on one material as described in the attached figures according to ASTM E90-16.

3.0 Test Partitions

One partition was installed by the client according to ASTM E90-16 standard and tested for the sound insulation and the details are below:

- 200 mm thickness Hollow Concrete Block (2.6 x 2.6 m).

4.0 Test Procedure

The measurements were carried out according to the method set forth in ASTM E90-16. The STC value was obtained by applying the Transmission Loss (TL) values to the STC reference contour of ASTM: E413-16, "Classification for Rating Sound Insulation" The actual transmission loss at each frequency was calculated by the following equation:

$$TL = NR + 10 \log S - 10 \log A_2$$

where:

TL = Field Transmission Loss (dB)

NR = Noise Reduction (dB) $(L_1 - L_2)$

S = Surface area common to both sides (m^2)

A_2 = Sound absorption of the receiving room with the sample in place (m^2)

5.0 Test Equipment:

Item Description	Manufacturer/Model	Calibration Due
Type 1 Sound & Vibration Analyzer including: 1/1 & 1/3 octave filter, Time Domain Signal recording, FFT, RT60, Signal generator	SVANTEK/SVAN 979	08-04-2019
Noise signal generator and external signal amplification.	QSource/ Qam	-

ACES JEDDAH/ACES2019/JMR19002394-2

س.ت ٤٠٣٠١٥٧٥٨٦ رقم العضوية ١٠٦٩٣٤ ص.ب ١٣٣٩٥ جدة ٢١٢٨٢ هاتف ٩٦٦١٢٦٤١٤٢٢
فاكس ٩٦٦١٢٦٢٥٤٤٨ شركة ذات مسؤولية محدودة - رأس المال للدفع ٥٦٦٢٥٠٠٠ ريال
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Tel: +96612 6641422 Fax: 96612 6635448 E-mail: acesjeddah@aces-int.com
Riyadh Tel: 011-2372222 Al Khobar Tel: 013 8811841 Najran Tel: 017 5239037 Buraydah Tel: 016 3844575 Madinah Tel: 14 8693326

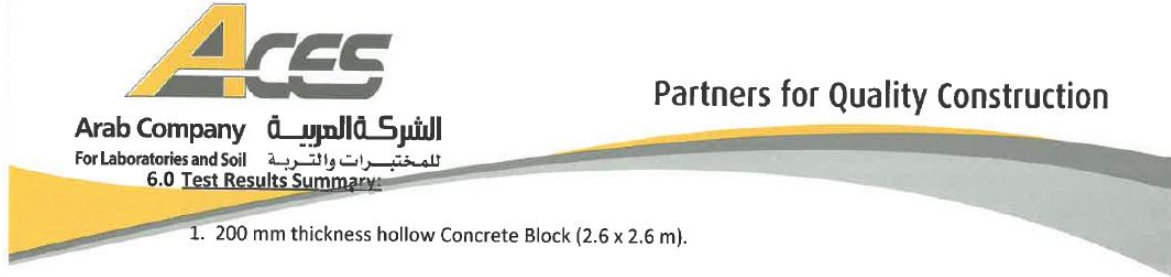


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تقرير العزل الصوتي · بلوك مفرغ 20 سم · STC 47 · صفحة 3 من 5

مختبرات ACES · ASTM E90 · مايو 2019

تقرير اختبار



1. 200 mm thickness hollow Concrete Block (2.6 x 2.6 m).

Sound Transmission Class (STC) Test				Test Results		Project Specification
Sample No.	Partitions Made of	Location	Area of Test Partition (m ²)	STC*	Deficiency (dB)	Masonry Assemblies Page 2 of 13 150 mm Hollow Block
Wall - 1	Hollow Concrete Block wall 200 mm Thick	ACES Lab	6.76 Panel	29.1	47	47 STC

*Tabular and graphical presentations of the data are presented under "TEST RESULTS" below.

7.0 Test Report Limitations:

- The testing described, the results calculated and this report fully comply with requirements of ASTM E669-16a.
- The results stated in this report represent only the specific construction and acoustical conditions present at the time of the test. Measurements performed in accordance with this standard on nominally identical constructions and acoustical conditions may produce different results.



ACES JEDDAH/ACES2019/JMR19002394-2

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س.ت ٤٠٣٠١٥٧٥٨٦ رقم العضوية ١٠٦٩٣٤ ص.ب ١٣٢٩٠٥ جدة ٢١٣٨٢ هاتف ٩٦٦١٣٦٦٤١٤٢٢
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تقرير العزل الصوتي · بلك مفرغ 20 سم · STC 47 · صفحة 4 من 5

مختبرات ACES · ASTM E90 · مايو 2019

تقرير اختبار



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Partners for Quality Construction

TEST RESULTS

Report No.	JMR19002394-2	Request No.	JMQ19001564
Client Name	Riyadh Block Factory		
Partition Area	Hollow Concrete Block - Wall 200 mm	Area (m ²)	6.76
Source Room	ACES ATR-1	Humidity (%)	-
Volume (m ³)	75	Temp. (C°)	20
Receiving Room	ACES ATR-2	Humidity (%)	-
Volume (m ³)	75	Temp. (C°)	20
Operator	Shareef Murad		
Witness By	Eng. Talal (ABV Rock)		

1/3 Octave-Band Frequency (Hz)	Adjustment for Contour Level (dB)	Contour Level (dB)	TL (dB)	Deficiency (dB)	Max Deficiency ≤ 8 dB
125	3	31	29.1	1.9	OK
160	3	34	32.1	1.9	OK
200	3	37	31.8	5.2	OK
250	3	40	34.6	5.4	OK
315	3	43	36.9	6.1	OK
400	1	46	40.1	5.9	OK
500	1	47	44.3	2.7	OK
630	1	48	50.6	0	OK
800	1	49	55.3	0	OK
1000	1	50	57.0	0	OK
1250	0	51	60.0	0	OK
1600	0	51	64.5	0	OK
2000	0	51	67.9	0	OK
2500	0	51	67.4	0	OK
3150	0	51	66.9	0	OK
4000	0	51	70.6	0	OK
TOTAL			29.1		
Wall is STC:					47



ACES JEDDAH/ACES2019/JMR19002394-2

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س.ت ٤٠٣٠١٥٧٥٨٦ رقم العضوية ١٠٦٩٣٤ ص.ب ١٣٢٩٠٥ جدة ٢١٣٨٢ هاتف ٩٦٦١٣٦٦٤١٤٢٢
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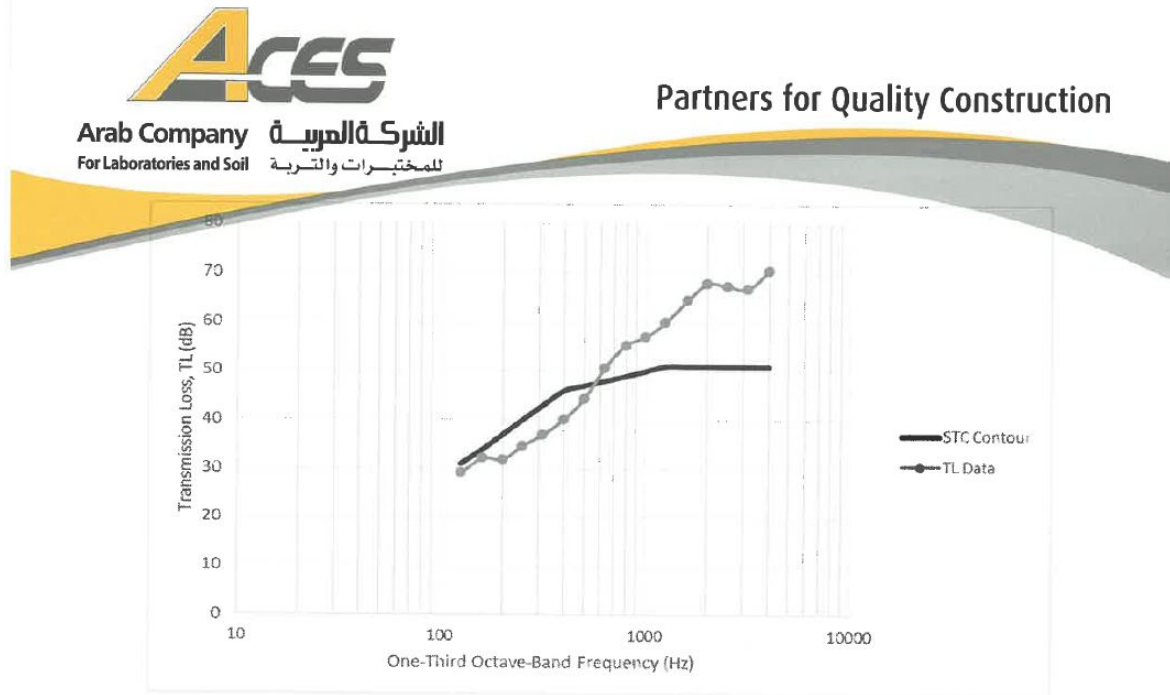


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ACES JEDDAH/ACES2019/JMR19002394-2

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س.ت ٤٠٣٠١٥٧٥٨٦ رقم العضوية ١٠٦٩٣٤ ص.ب ١٣٢٩٠٥ جدة ٢١٣٨٢ هاتف ٩٦٦١٢٦٦٤١٤٢٢
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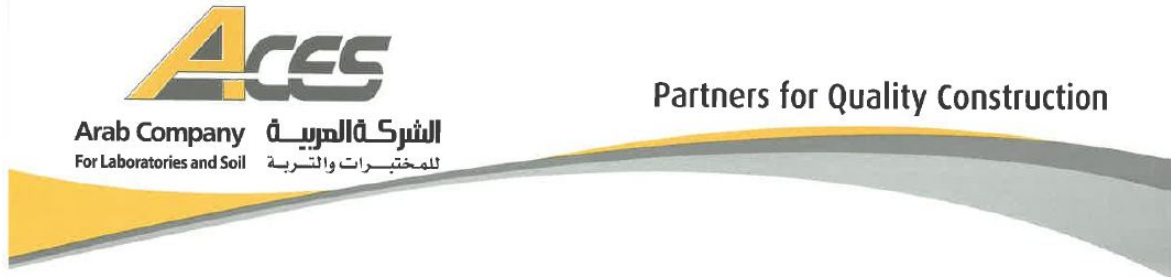


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مختبرات ACES • ASTM E90 • مايو 2019

تقرير اختبار



Riyadh Block Factory
Jeddah, KSA

Our ref : JMQ19002394-1
Date : 09 May 2019

Attention : Mr. Mahmood
Email : sales@rbf.sa
Mobile : 055 508 0197
Subject : Sound Transmission Class Test - Hollow Block 15 cm

Dear Sir,

According to your request on April 29, 2019, acoustical analysis of Sound Transmission Class test was carried out by ACES on hollow concrete block. This report presents the results of acoustical testing the weight wall partitions.

In the event that additional information or clarifications are required, please contact our office at your convenience. We would like to take this opportunity to thank you for your confidence and look forward to be of service to you in the near future.

Kind regards,


Farid W. Ghadieh

Branch Manager – Jeddah
For Arab Company for Laboratories and Soil



ACES JEDDAH/ACES2019/JMR19002394-1

1 of 5

س.ت ٤٠٣٠١٥٧٥٨٦ رقم العضوية ١٠٦٩٣٤ ص.ب ١٢٢٩٠٥ جدة ٢١٢٨٢ هاتف ٩٦٦١٢٦٦٤١٤٢٢
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مختبرات ACES • مايو 2019

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1.0 Introduction:

According to your request on April 29, 2019, acoustical analysis of Sound Transmission Class test was carried out by ACES on hollow concrete block. This report presents the results of acoustical testing the weight wall partitions.

2.0 Tests Carried Out

"Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements" was carried out on one material as described in the attached figures according to ASTM E90-16.

3.0 Test Partitions

One partition was installed by the client according to ASTM E90-16 standard and tested for the sound insulation and the details are below:

- 150 mm thickness Hollow Concrete Block (2.6 x 2.6 m).

4.0 Test Procedure

The measurements were carried out according to the method set forth in ASTM E90-16. The STC value was obtained by applying the Transmission Loss (TL) values to the STC reference contour of ASTM: E413-16, "Classification for Rating Sound Insulation" The actual transmission loss at each frequency was calculated by the following equation:

$$TL = NR + 10 \log S - 10 \log A_2$$

where:

TL = Field Transmission Loss (dB)

NR = Noise Reduction (dB) ($L_1 - L_2$)

S = Surface area common to both sides (m^2)

A_2 = Sound absorption of the receiving room with the sample in place (m^2)

5.0 Test Equipment:

Item Description	Manufacturer/Model	Calibration Due
Type 1 Sound & Vibration Analyzer including: 1/1 & 1/3 octave filter, Time Domain Signal recording, FFT, RT60, Signal generator	SVANTEK/SVAN 979	08-04-2019
Noise signal generator and external signal amplification.	QSource/ Qam	-

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٩٦٦١٢٦٦٤١٤٢٢ هاتف ٢١٢٨٢ جدة ١٢٢٩٠٥ ص.ب ١٠٦٩٢٤ رقم العضوية ٤٠٢٠١٥٧٥٨٦
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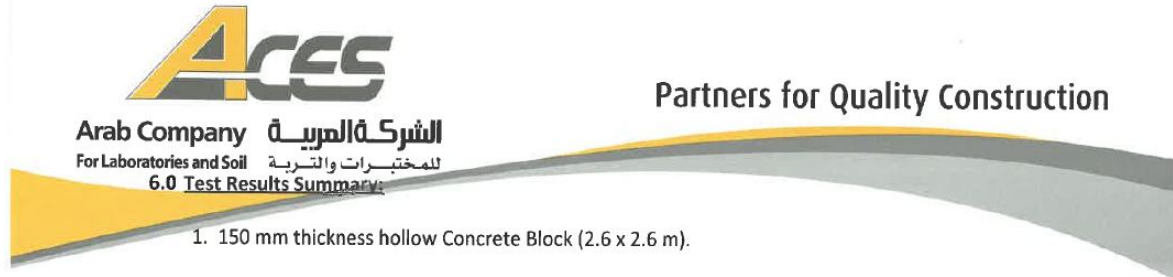


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1. 150 mm thickness hollow Concrete Block (2.6 x 2.6 m).

Sound Transmission Class (STC) Test				Test Results		Project Specification
Sample No.	Partitions Made of	Location	Area of Test Partition (m ²)	STC*	Deficiency (dB)	Masonry Assemblies Page 2 of 13 150 mm Hollow Block
Wall - 1	Hollow Concrete Block wall 150 mm Thick	ACES Lab	6.76 Panel	30.1	45	45 STC

*Tabular and graphical presentations of the data are presented under "TEST RESULTS" below.

7.0 Test Report Limitations:

- The testing described, the results calculated and this report fully comply with requirements of ASTM E669-16a.
- The results stated in this report represent only the specific construction and acoustical conditions present at the time of the test. Measurements performed in accordance with this standard on nominally identical constructions and acoustical conditions may produce different results.



ACES JEDDAH/ACES2019/JMR19002394-1

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س.ت ٤٠٣٠١٥٧٥٨٦ رقم العضوية ١٠٦٩٣٤ ص.ب ١٣٢٩٠٥ جدة ٢١٣٨٢ هاتف ٩٦٦١٣٦٦٤١٤٢٢
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الشركة العربية
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TEST RESULTS

Report No.	JMR19002394	Request No.	JMQ19001564
Client Name	Riyadh Block Factory		
Partition Area	Hollow Concrete Block - Wall 150 mm	Area (m ²)	6.76
Source Room	ACES ATR-1	Humidity (%)	-
Volume (m ³)	75	Temp. (C°)	20
Receiving Room	ACES ATR-2	Humidity (%)	-
Volume (m ³)	75	Temp. (C°)	20
Operator	Shareef Murad		
Witness By	Eng. Talal (ABV Rock)		

1/3 Octave-Band Frequency (Hz)	Adjustment for Contour Level (dB)	Contour Level (dB)	TL (dB)	Deficiency (dB)	Max Deficiency ≤ 8 dB
125	3	29	25.8	3.2	OK
160	3	32	28.7	3.3	OK
200	3	35	27.5	7.5	OK
250	3	38	31.4	6.6	OK
315	3	41	35.3	5.7	OK
400	1	44	40.7	3.3	OK
500	1	45	44.5	0.5	OK
630	1	46	48.8	0	OK
800	1	47	49.2	0	OK
1000	1	48	53.0	0	OK
1250	0	49	55.7	0	OK
1600	0	49	61.0	0	OK
2000	0	49	62.5	0	OK
2500	0	49	63.9	0	OK
3150	0	49	63.6	0	OK
4000	0	49	66.0	0	OK
TOTAL			30.1		
Wall is STC:					45



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س.ت ٤٠٣٠١٥٧٥٨٦ رقم العضوية ١٠٦٩٢٤ ص.ب ١٣٩٠٥ جدة ٢١٢٨٢ هاتف ٩٦٦١٣٦٦٤١٤٢٢
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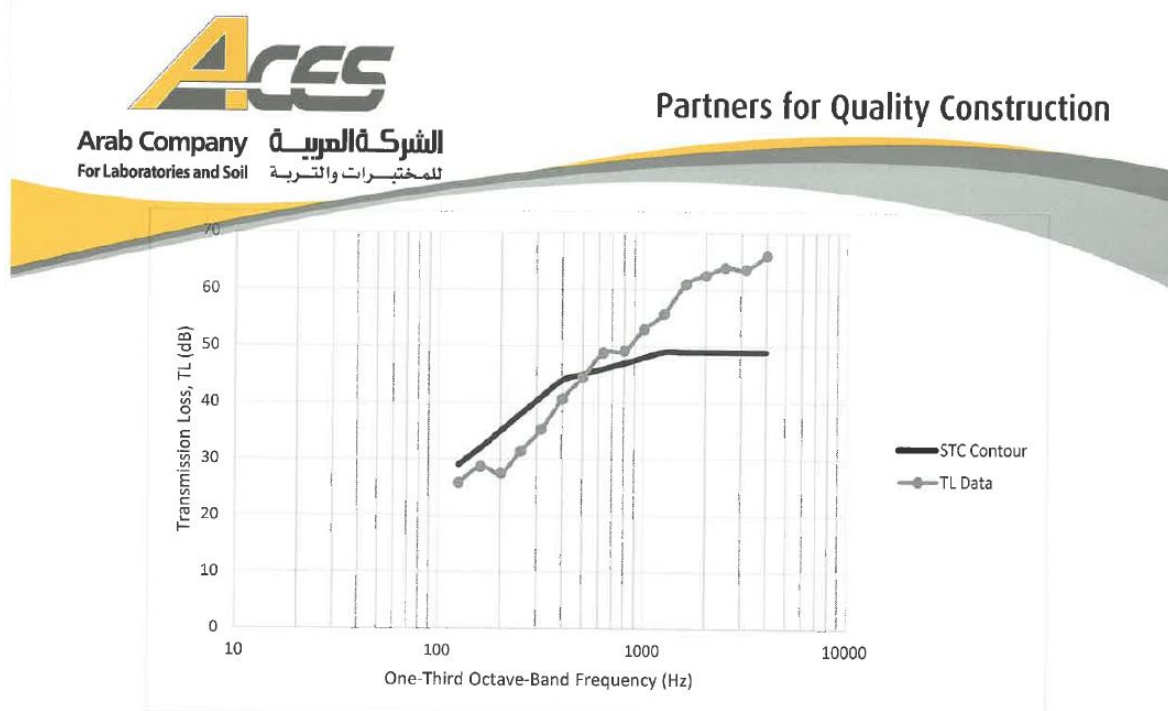


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ACES JEDDAH/ACES2019/JMR19002394-1

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س.ت ٤٠٣٠١٥٧٥٨٦ رقم العضوية ١٠٦٩٣٤ ص.ب ١٣٢٩٠٥ جدة ٢١٣٨٢ هاتف ٩٦٦١٣٦٦٤١٤٢٢
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مختبرات ACES - ACI 216 - يونيو 2020

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Hollow Concrete Block Test Report For Fire Resistance

Client	Riyadh Block Factory	Report No.	JMR20006437
Contractor	Riyadh Block Factory	Date Reported	21-Jun-2020
Consultant	N.P	Sample No.	JMS20001882
Project No.	N.P	Request No.	JMQ20001169
Project Name	Private	Client Reference	Verbal
Sample Description	Hollow Blocks	Sampled By	Client's Rep.
Supplier	N.P	Sampling Date	20-Jun-2020
Test Method	ACI 216 (Calculation Method)	Sample Brt. In By	Client's Rep.
Test Method Var.	N.P	Date Received	20-Jun-2020
Tested By	ACES	Date Tested	20-Jun-2020

Test Results Of Fire Resistance

Type	Block No.	Dimensions			Fire Resistance (Hours)
		Length (mm)	Width (mm)	Height (mm)	
400*200*200	1.Sample (2.5cm)	397	198	200	2.8
	2.Sample (2.0cm)	398	197	196	2.2

Arab Company For Laboratories and Soil

Eng. Tariq Ameen Diab
QA/QC Department Manager

Arab Company For Laboratories and Soil

Eng. Ayman Tanninah
Material Department Manager



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مختبرات ACES - ASTM C140 - يناير 2020

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Partners for Quality Construction

Hollow Concrete Block Test Report For Water Absorption

Client	Riyadh Block factory	Report No.	JMR20007962
Contractor	Riyadh Block factory	Date Reported	16-Jul-2020
Consultant	N.P	Sample No.	JMS20002241
Project No.	N.P	Request No.	JMQ20001359/2
Project Name	Private	Client Reference	Verbal
Sample Description	Isolated Block (20 cm)	Sampled By	Client's Rep.
Supplier	N.P	Sampling Date	15-Jul-2020
Test Method	ASTM C140	Sample Brt. In By	Client's Rep.
Test Method Var.	N.P	Date Received	15-Jul-2020
Tested By	ACES	Date Tested	16-Jul-2020

Test Results Of Water Absorption:

Type	Block No.	Dimensions				Dry Wg.	SSD Wg.	Water Absorption %
		Length (mm)	Width (mm)	Height (mm)				
400x150x200	1	400	201	200		16092.0	18103.0	12.5
	2	400	200	200		16114.0	18112.0	12.4
	3	400	200	201		16128.0	18109.0	12.3

Arab Company For Laboratories and Soil

Eng. Tariq Diab
QA/QC Department Manager

Arab Company For Laboratories and Soil

Eng. Ayman Tanninah
Material Department Manager

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Hollow Concrete Block Test Report For Water Absorption

Client	Riyadh Block factory	Report No.	JMR20007962
Contractor	Riyadh Block factory	Date Reported	16-Jul-2020
Consultant	N.P	Sample No.	JMS20002241
Project No.	N.P	Request No.	JMQ20001359/1
Project Name	Private	Client Reference	Verbal
Sample Description	Hollow Block (20 cm)	Sampled By	Client's Rep.
Supplier	N.P	Sampling Date	15-Jul-2020
Test Method	ASTM C140	Sample Brt. In By	Client's Rep.
Test Method Var.	N.P	Date Received	15-Jul-2020
Tested By	ACES	Date Tested	16-Jul-2020

Test Results Of Water Absorption:

Type	Block No.	Dimensions					Water Absorption %
		Length (mm)	Width (mm)	Height (mm)	Dry Wg.	SSD Wg.	
400x150x200	1	400	200	200	17705.0	19227.0	8.6
	2	400	201	200	17811.0	19229.0	8.0
	3	400	201	200	17783.0	19230.0	8.1

Arab Company For Laboratories and Soil

Eng. Tariq Dab
QA/QC Department Manager

Arab Company For Laboratories and Soil

Eng. Ayman Tanninah
Material Department Manager

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ACES Makkah: C.R. 4031215193 C.C No.
ACES Yanbu: C.R. 4700110677 C.C No. 205001130957
E-mail: acesjeddah@aces-int.com

P.O.Box 132905, Jeddah 21382
P.O.Box 46891, Riyadh 11542
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شركة ذات مسؤولية محدودة - رأس المال المدفوع ٥٦٢٥٠٠٠٠ ريال

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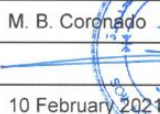
مقاومة الحريق لوحدة البناء - مشروع مستشفى قوى الأمن ذهبان

مختبرات SAFCO - NCMA TEK - فبراير 2021

تقرير اختبار

Fire Resistance of Concrete Masonry Unit

TEST REF: NCMA TEK

PROJECT	Security Hospital -Dhaban (ABV Rock Group Co.)			DATE	10-Feb-2021
CLIENT	Riyadh Block Factory			REF	SMF-4918
LOCATION	Dhaban, Jeddah, Kingdom of Saudi Arabia				-
Masonry Unit Actual Dimension					
Length	40.0	Net Area	408.00	cm ²	
Height	20.0 cm	Net Volume	8160.0	cm ³	
Width	20.0 cm	Gross Volume	16000.0	cm ³	
% Solid	51.0 %	Equiv.Thickness= %solid x eq. Thi	102.0	mm	
Date Cast		Web Thickness	3.0	cm	
Date Received	10 February 2021	Face Shell Thickness	3.0	cm	
Date Tested	10 February 2021	Number of cell	3	cell	
The fire resistance rating of the concrete masonry unit is determined by "Calculation Method" in compliance to the standard given in the Engineering Bulletin from National Masonry Association (NCMA). The calculation method determined fire resistance rating based on the equivalent thickness of concrete masonry unit and aggregates types used in their manufacture. The standard established a relationship between fire resistance rating and the equivalent thickness of concrete masonry units.					
Aggregate type used in the Concrete Masonry Units					
Sample No.	Full size Units (Test Specimen Nominal Size)	Equivalent Thickness mm	Fire Resistance Rating hours		
1	Length = 40 cm	102.0	3.0		
	Width = 20 cm				
	Height = 20 cm				
Average					
Remarks:					
Sample were delivered by client to our laboratory. Information provided by the client					
Supplier:					
TEST PERFORMED BY :			CHECKED BY :		
NAME	Usman	NAME	M. B. Coronado		
SIGNATURE		SIGNATURE			
DATE	10 February 2021	DATE	10 February 2021		

شركة التربة والأساسات المحدودة
SOIL & FOUNDATION CO. LTD.



مقاومة الحريق لوحدة البناء - ضبط الجودة

مختبرات SAFCO - NCMA TEK - فبراير 2021

تقرير اختبار

Fire Resistance of Concrete Masonry Unit

TEST REF: NCMA TEK

PROJECT	Quality Control Test			DATE	10-Feb-2021
CLIENT	Riyadh Block Factory			REF	SMF-4918
LOCATION	Usfan, Jeddah, Kingdom of Saudi Arabia				
Masonry Unit Actual Dimension					
Length	40.0	Net Area	408.00	cm ²	
Height	20.0 cm	Net Volume	8160.0	cm ³	
Width	20.0 cm	Gross Volume	16000.0	cm ³	
% Solid	51.0 %	Equiv. Thickness= %solid x eq. Thi	102.0	mm	
Date Cast		Web Thickness	3.0	cm	
Date Received	10 February 2021	Face Shell Thickness	3.0	cm	
Date Tested	10 February 2021	Number of cell	3	cell	
The fire resistance rating of the concrete masonry unit is determined by "Calculation Method" in compliance to the standard given in the Engineering Bulletin from National Masonry Association (NCMA). The calculation method determined fire resistance rating based on the equivalent thickness of concrete masonry unit and aggregates types used in their manufacture. The standard established a relationship between fire resistance rating and the equivalent thickness of concrete masonry units.					
Aggregate type used in the Concrete Masonry Units					
Sample No.	Full size Units (Test Specimen Nominal Size)	Equivalent Thickness mm	Fire Resistance Rating hours		
1	Length = 40 cm	102.0	3.0		
	Width = 20 cm				
	Height = 20 cm				
Average					
Remarks: Sample were delivered by client to our laboratory. Information provided by the client Supplier:					
TEST PERFORMED BY :			CHECKED BY :		
NAME	Usman	NAME	M. B. Coronado		
SIGNATURE		SIGNATURE			
DATE	10 February 2021	DATE	10 February 2021		

شركة التربة والأساسات المحدودة
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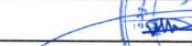
مقاومة الحريق لوحدة البناء

مختبرات SAFCO · NCMA TEK · أكتوبر 2019

تقرير اختبار

Fire Resistance of Concrete Masonry Units

TEST REF: NCMA TEK

PROJECT	Quality Control Test	DATE	28-Oct-2019	
CLIENT	Riyadh Block Factory	REF	SMF-4918	
LOCATION	Usfan, Jeddah, Kingdom of Saudi Arabia		-	
Masonry Unit Actual Dimension				
Length	40.0 cm	Net Area	669.60 cm ²	
Height	20.0 cm	Net Volume	13392.0 cm ³	
Width	30.0 cm	Gross Volume	24000.0 cm ³	
% Solid	55.8 %	Equiv.Thickness= %solid x eq. Thi	167.4 mm	
Date Cast		Dimension of Insulation	32.0 x 5.7 cm	
Date Received	28 October 2019	Dimension of other hole	14.50 x 6.0 cm	
Date Tested	28 October 2019	Number of hole	5 cell	
The fire resistance rating of the concrete masonry unit is determined by "Calculation Method" in compliance to the standard given in the Engineering Bulletin from National Masonry Association (NCMA). The calculation method determined fire resistance rating based on the equivalent thickness of concrete masonry unit and aggregates types used in their manufacture. The standard established a relationship between fire resistance rating and the equivalent thickness of concrete masonry units.				
Aggregate type used in the Concrete Masonry Units : Slag				
Sample No.	Full size Units (Test Specimen Nominal Size)	Equivalent Thickness mm	Fire Resistance Rating hours	
1	Length = 40 cm	167.4	4.0	
	Width = 30 cm			
	Height = 20 cm			
Average				
Remarks: Sample were delivered by client to our laboratory. Information provided by the client Supplier:				
TEST PERFORMED BY :		CHECKED BY :		
NAME	Usman	NAME	M. B. Coronado	
SIGNATURE		SIGNATURE		
DATE	28 October 2019	DATE	28 October 2019	

شركة التربة والأساسات المحدودة
SOIL & FOUNDATION CO. LTD.

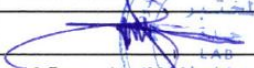


مقاومة الضغط - هوردي بركاني

مختبرات SAFCO - ASTM C129 - ديسمبر 2019

تقرير اختبار

Compressive Strength of Burkani Hordi Block

PROJECT	Quality Control Test		DATE	2-Dec-2019		
CLIENT	Riyadh Block Factory		REF	SMF-4918		
LOCATION	Palestine street, Jeddah, Kingdom of Saudi Arabia					
Burkani Hordi Block Dimensions						
Length	39.5/36 cm	Net Area	355.5 cm ²			
Height	20.0 cm	Net Volume	7110.0 cm ³			
Width	20.0 cm	Gross Volume	15100.0			
Date Cast		Web Thickness	3.0 cm			
Date Received	30 November 2019	Face Shell Thickness	3.0 cm			
Date Tested	02 December 2019	Number of cell	2 cell			
Sample No.	Sample Description	Age (days)	Weight (gm)	Density gm/cm ³	Load (kN)	Strength (MPa)
1	Burkani Hordi Block (40/36 x 20 x 20)	-	13,949	1.962	175.9	4.95
2	Close Bottom	-	13,874	1.951	195.6	5.50
-	- nothing follows -	-	-	-	-	-
				Average	185.8	5.23
ASTM C 129 Requirements for Non-Load Bearing Concrete Masonry Unit						
		Compressive Strength based on Net Area (MPa)				
Average of 3 units		4.14				
Individual unit		3.45				
Remarks: Sample tested conforms with the requirements of ASTM C 129						
TEST PERFORMED BY :			CHECKED BY :			
NAME	Usman		NAME	M. B. Coronado		
SIGNATURE			SIGNATURE			
DATE	02 December 2019		DATE	02 December 2019 Jeddah		

مركز البحوث والاساسات المحدودة
SOIL & FOUNDATION CO. LTD.

اختبار التوصيل الحراري - بلوك معزول (عازل 5 سم)

مختبرات SAFCO - ASTM D5334 - يناير 2018

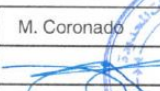
تقرير اختبار

Thermal Conductivity Test for Concrete Masonry Unit

TEST REFERENCE: ASTM D 5334

PROJECT	Quality Control Test	DATE	17-Jan-2018			
CLIENT	Riyadh Block Factory	REF No.	SMF-4918			
LOCATION	Palestine street, Jeddah, Kingdom of Saudi Arabia	EQPT. USE	KD-2 Pro			
SAMPLE	Insulated Concrete Masonry Units (40 x 20 x 20 cm) with 5.0 cm insulation					
Test Parameters		unit	Test Result			
			1			
1	Length of Sample	mm	400			
2	Width of Sample	mm	200			
3	Height of Sample	mm	200			
4	Face Shell Thickness	mm	30			
5	Insulation Thickness	mm	55			
6	Thermal Conductivity of Block(λ_c)	W/m ⁻⁰ K	0.368			
7	Thermal Conductivity of EPS(λ_{EPS})	W/m ⁻⁰ K	0.033			
8	Thermal Conductivity of Air(λ_a)	W/m ⁻⁰ K	0.0257			
9	Thermal Resistance for Insulated Blocks (R-Value)	m ²⁻⁰ K/W	4.983			
10	Thermal Transmittance for Insulated Blocks (U-Value)	W/m ²⁻⁰ K	0.201			

REMARKS Sample delivered by client to SAFCO laboratory, Information provided by the client

TESTED BY :		CHECKED BY :	
NAME	Usman	NAME	M. Coronado
SIGNATURE		SIGNATURE	
DATE	17 January 2018	DATE	17 January 2018

شركة التربة والاساسات المحدودة
SOIL & FOUNDATION CO. LTD.



اختبار التوصيل الحراري - بلك معزول (عازل 7 سم)

مختبرات - SAFCO - ASTM D5334 - يناير 2018

تقرير اختبار

Thermal Conductivity Test for Concrete Masonry Unit

TEST REFERENCE: ASTM D 5334

PROJECT	Quality Control Test			DATE	17-Jan-2018	
CLIENT	Riyadh Block Factory			REF No.	SMF-4918	
LOCATION	Palestine street, Jeddah, Kingdom of Saudi Arabia			EQPT. USE	KD-2 Pro	
SAMPLE	Insulated Concrete Masonry Units (40 x 20 x 20 cm) with 7.0 cm insulation					
Test Parameters		unit	Test Result			
			1			
1	Length of Sample	mm	400			
2	Width of Sample	mm	200			
3	Height of Sample	mm	200			
4	Face Shell Thickness	mm	26			
5	Insulation Thickness	mm	70			
6	Thermal Conductivity of Block(λ_c)	W/m ⁻⁰ K	0.355			
7	Thermal Conductivity of EPS(λ_{EPS})	W/m ⁻⁰ K	0.030			
8	Thermal Conductivity of Air(λ_a)	W/m ⁻⁰ K	0.0257			
9	Thermal Resistance for Insulated Blocks (R-Value)	m ² - ⁰ K/W	5.837			
10	Thermal Transmittance for Insulated Blocks (U-Value)	W/m ² - ⁰ K	0.171			

REMARKS Sample delivered by client to SAFCO laboratory, Information provided by the client

TESTED BY :		CHECKED BY :	
NAME	Usman	NAME	M. Coronado
SIGNATURE		SIGNATURE	
DATE	17 January 2018	DATE	17 January 2018

شركة التربة والأساسات المحدودة
SOIL & FOUNDATION CO. LTD.



اختبار التوصيل الحراري - بلوك معزول (عازل 5.5 سم)

مختبرات SAFCO · ASTM D5334 · يناير 2018

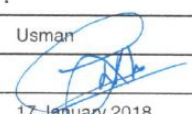
تقرير اختبار

Thermal Conductivity Test for Concrete Masonry Unit

TEST REFERENCE: ASTM D 5334

PROJECT	Quality Control Test	DATE	17-Jan-2018			
CLIENT	Riyadh Block Factory	REF No.	SMF-4918			
LOCATION	Palestine street, Jeddah, Kingdom of Saudi Arabia	EQPT. USE	KD-2 Pro			
SAMPLE	Insulated Concrete Masonry Units (40 x 30 x 20 cm) with 5.5 insulation					
Test Parameters		unit	Test Result			
			1			
1	Length of Sample	mm	400			
2	Width of Sample	mm	300			
3	Height of Sample	mm	200			
4	Face Shell Thickness	mm	30			
5	Insulation Thickness	mm	55			
6	Thermal Conductivity of Block(λ_c)	W/m- ⁰ K	0.362			
7	Thermal Conductivity of EPS(λ_{EPS})	W/m- ⁰ K	0.033			
8	Thermal Conductivity of Air(λ_a)	W/m- ⁰ K	0.0257			
9	Thermal Resistance for Insulated Blocks (R-Value)	m ² - ⁰ K/W	3.891			
10	Thermal Transmittance for Insulated Blocks (U-Value)	W/m ² - ⁰ K	0.257			

REMARKS Sample delivered by client to SAFCO laboratory, Information provided by the client

TESTED BY :		CHECKED BY :	
NAME	Usman	NAME	M. Coronado
SIGNATURE		SIGNATURE	
DATE	17 January 2018	DATE	17 January 2018

شركة التربة والأساسات المحدودة
SOIL & FOUNDATION CO. LTD.

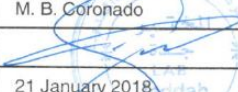


مقاومة الضغط لوحداث البناء - ASTM C90

مختبرات SAFCO - يناير 2018

تقرير اختبار

Compressive Strength of Concrete Masonry Units

PROJECT	Quality Control Test			DATE	21-Jan-2018							
CLIENT	Riyadh Block Factory			REF	SMF-4918							
LOCATION	Palestine street, Jeddah, Kingdom of Saudi Arabia											
Concrete Masonry Units												
LENGTH	40.0 cm	NET AREA	324.80 cm ²									
HEIGHT	19.5 cm	NET VOLUME	6333.6 cm ³									
WIDTH	14.5 cm											
DATE CAST		Web Thickness	2.8 cm									
DATE RECEIVED	21 January 2018	Face Shell Thickness	2.8 cm									
DATE TESTED	21 January 2018	Number of cell	3 cell									
Sample No.	SAMPLE DESCRIPTION	AGE (days)	WEIGHT (gm)	DENSITY gm/cm ³	LOAD (kN)	STRENGTH (MPa)						
B - 1	Concrete Masonry Units (40 x 15 x 20)	-	18,306	2.890	604.3	18.61						
ASTM C 90 Requirements for Load Bearing Concrete Masonry Units <table border="1"> <tr> <td></td> <td>Compressive Strength based on Net Area (MPa)</td> </tr> <tr> <td>Average of 3 units</td> <td>13.1</td> </tr> <tr> <td>Individual unit</td> <td>11.7</td> </tr> </table>								Compressive Strength based on Net Area (MPa)	Average of 3 units	13.1	Individual unit	11.7
	Compressive Strength based on Net Area (MPa)											
Average of 3 units	13.1											
Individual unit	11.7											
Remarks: Sample tested conforms with the requirements of ASTM C 90 Supplier :												
TEST PERFORMED BY :			CHECKED BY :									
NAME	Tajul Islam		NAME	M. B. Coronado								
SIGNATURE			SIGNATURE									
DATE	21 January 2018		DATE	21 January 2018								

شركة التربة والأساسات المحدودة
SOIL & FOUNDATION CO. LTD.



تقرير العزل الصوتي (STC) · بلوك 20 سم · صفحة 1 من 3

مختبرات GECO · ASTM E413 · ديسمبر 2017

تقرير اختبار

Geotechnical & Environmental Co. Ltd.

Limited Liability
Paid Capital : Two Million Riyals
C.R. 1010299565 - C.C. 243710
Head Office : Riyadh



الشركة الجيو تقنية والبيئية المحدودة [جيكو]

ذات مسؤولية محدودة
رأس المال مليونان ريال مدفوع بالكامل
سجل تجاري ١٠١٠٢٩٩٥٦٥ - عضوية الغرفة ٢٤٣٧١٠
المركز الرئيسي - الرياض

30th Dec, 2017

Geco-Air /1230

Messrs.: AL-RIYADH PLANT FOR BLOCK.

Jeddah, Kingdom of Saudi Arabia

Attn: Eng Mahmoud Fessal

(Product Engineer)

Subject: Determination of Sound Transmission class STC Report of Concrete Block

Dear Sir,

Based on your request we are pleased to submit herewith the laboratory sound transmission report that has carried out on the concrete block samples delivered by your representative for your proposed project that is located in Jeddah, Kingdom of Saudi Arabia.

Methodology:-

Testing for airborne sound transmission is performed under rigidly established procedures set up by the American Society for Testing and Materials (ASTM procedure E-413). Several independent acoustical laboratories across the nation are qualified to perform the tests. Although all are presumably reliable and follow the ASTM procedure, the results tend to vary slightly. For this reason, test results from more than one laboratory should never be compared on an exact basis.

Tests are conducted on a sample assembly, at least 2.4 m×2.4 m in size. The assembly is installed between two blocks constructed in such a way that sound transmitted between the rooms by paths other than through the assembly is insignificant. Background noise in the rooms is monitored to ensure it does not affect.



ت : ٢٩٢٤١٠٣ / ٢٩٢٤١٠٤ - فاكس : ٢٩٢٤١٠٤ - ص.ب ٥٣٦١٣ الرياض ١١٥٩٣ - المملكة العربية السعودية
Tel. : 01 - 2924 101 - 2924 103 - Fax : 01 - 2924 104 - P.O.Box 53613 Riyadh 11593 - Kingdom of Saudi Arabia
E-mail : geco_ryd@yahoo.com / www.geco-Ksa.com

تقرير العزل الصوتي (STC) · بلوك 20 سم · صفحة 2 من 3

مختبرات GECCO · ASTM E413 · ديسمبر 2017

تقرير اختبار

The sound source consists of an electronic device and loudspeaker which produce a continuous random noise covering a minimum frequency range of 125 to 4,000 Hz (Hertz—cycles per second). Sound level is measured at several microphone positions in each block's direction. Readings are taken at sixteen 1/3-octave frequency-band intervals. Average sound levels in the receiving direction are subtracted from the corresponding sound levels in the source sound direction. The differences (sound levels of the actual transmission) are recorded as transmission-loss values.

Table – 1, Sound Transmission Class STC of 0.2 m thickness of concrete block,

No.	Frequency Hz	Sound Transmission Class STC (dB)
1-	125	35
2-	160	36.3
3-	200	40.7
4-	250	43.8
5-	315	48.7
6-	400	60.9
7-	500	73.5
8 -	630	70.1
9-	800	73.3
10-	1000	65.5
11-	1250	73.8
12-	1600	76.1
13-	2000	77.2
14-	2500	67.8
15-	3150	70.2
16-	4000	68.3
Avg		61.32

الشركة الجيوتقنية والبيئية المحدودة [جيكو]
Geotechnical & Environmental Co. Ltd.

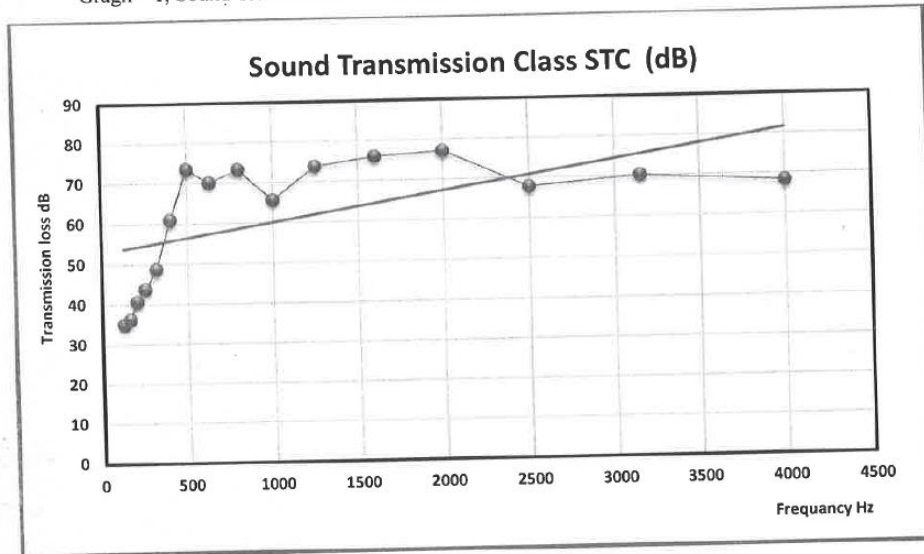


تقرير العزل الصوتي (STC) · بلوك 20 سم · صفحة 3 من 3

مختبرات GECO · ديسمبر 2017

تقرير اختبار

Graph - 1, Sound Transmission Class STC of 0.2 m thickness of riyadh concrete block,



Test result:

Through analysis of the results found that the average of sound transmission class STC for concrete block of 20cm thickness has 60.28 decibel.

We appreciate this opportunity to be of service to you on this project. Please do not hesitate to contact us if you have any questions regarding this project, or if we can be of further service.

With best regards,

GEOTECHNICAL & ENVIRONMENTAL CO.
(G E C O)

Material/Dr. Ayman abu Halwa,
GECO, Al Riyadh Office



الشركة الجيوتقنية والبيئية المحدودة [جيكو]
Geotechnical & Environmental Co. Ltd.



حساب مقاومة الحريق - بلوك بركاني 20 سم

آركي بلان - د. عبدالله بخاري - أكتوبر 2017

تقرير اختبار

Archiplan
Dr. Abdulla Y. Bokhari
Geotechnical Engineering Division



آركي بلان
مكتب الدكتور / عبدالله يحيى بخاري
قسم هندسة التربة والمواد

FIRE RATING RESISTANCE CALCULATION

PROJECT	FIRE RESISTANCE	LAB REF.	639 / 2017
CLIENT	AL RIYADH BLOCKS FACTORY - JEDDAH	DATE	16/10/2017
TEST REF.	BUILDING OFFICIALS CONFERENCE OF AMERICA		

BLOCK TYPE	POZLAN BLOCK
BLOCK SIZE	20X15X40 CM
HEIGHT (CM)	20.00
WIDTH (CM)	15.00
LENGTH (CM)	40.00
NO. OF OPENINGS	3.00 Closed at End
WALL THICKNESS (CM)	2.50
TOTAL VOLUME (CM ³)	12000.0
OPENING VOLUME (CM ³)	3487.0
SOLID VOLUME (CM ³)	8513.0
EQUIVALENT THICKNESS (CM)	10.64
EQUIVALENT THICKNESS (INCHES)	4.19
FIRE RATING RESISTANCE (HOURS)	2.22
RATING IN TIME (HOURS)	2:13:12


ARCHIPLAN
LICENSE NO. 423
DR. ABDULLA Y. BOKHARI
GEOTECHNICAL DIVISION
آركي بلان
ترخيص رقم ٤٢٣
مكتب الدكتور عبدالله يحيى بخاري
قسم هندسة التربة والمواد

FIRE RESISTANCE - RIYADH FACTORY

اختبار المقاومة الحرارية · بلك بركاني مفرغ

آركي بلان · د. عبدالله بخاري · مايو 2017

تقرير اختبار

Archiplan

Dr. Abdulla Y. Bokhari
Geotechnical Engineering Division



آركي بلان
مكتب الدكتور / عبدالله يحيى بخاري
قسم هندسة التربة والمواد

THERMAL RESISTIVITY TEST

PROJECT	TESTING OF POZZLANIC BLOCK			TEST No.	1
CLIENT	AL RIYADH BLOCK FACTORY				
MATERIALS	HOLLOW BLOCK 20 X 25 X 40 4 HOLES WITH CLOSED END + 1 HOLE OPEN				
EQUIPMENT	THERMAL RESISTIVITY EQUIPMENT			DATE	03/05/2017
LAB. REF. NO.	315 / 2017	TESTED BY	GECO	TEST REF.	IEEE Std 442

TIME (MINUTES)	TEMPERATURE (C°)			
	SAMPLE 1	SAMPLE 2	SAMPLE 3	AVERAGE
0.00	43.20	43.90	41.10	42.73
1.00	43.90	44.70	41.80	43.47
2.00	44.50	45.20	42.70	44.13
3.00	44.90	45.40	43.50	44.60
4.00	45.30	45.80	44.10	45.07
5.00	45.60	46.10	44.40	45.37
6.00	45.80	46.30	44.70	45.60
7.00	46.00	46.50	44.90	45.80
8.00	46.20	46.70	45.10	46.00
9.00	46.40	46.80	45.20	46.13
10.00	46.75	47.03	45.70	46.49

THERMAL RESISTIVITY EQUATION :

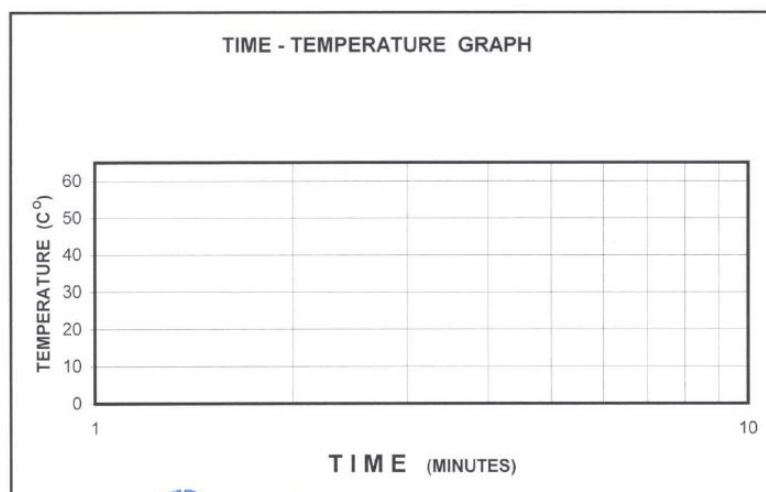
$$K = 4 \pi (T_2 - T_1) / 2.303 Q$$

Q : Heat dissipated per unit length W/cm

T₂-T₁ : Difference in temperature for one cycle on the semilog curve

Q = 0.36	T-1 = 43.47	T-2 = 46.49
----------	-------------	-------------

THERMAL RESISTANCE	3.057	M ² K/W
THERMAL CONDUCTIVITY	0.327	W/m ² K



Archiplan
ترخيص رقم ٤٢٢
مكتب الدكتور عبدالله يحيى بخاري
قسم هندسة التربة والمواد
DR. ABDULLA Y. BOKHARI
GEOTECHNICAL DIVISION

THERMAL- HOLLO BLOCK - RIYADH BLOCK FACTORY

شهادة مطابقة الإسمنت - SASO 1914 / ASTM C150

شركة أبناء عيد عبدالرحمن الصبحي - إسمنت رابغ - يناير 2018

تقرير مورد

**EID A. AL-SOBHI SONS
LIMITED LIABILITY CO.**

For Trading, Transport & Cement Selling

HEAD OFFICE : BADR

C.R. : 4702001180



شركة أبناء عيد عبدالرحمن الصبحي

ذات مسئولية محدودة

للتجارة والنقل وبيع الإسمنت

المركز الرئيسي : بدر

س.ت : ٤٧٠٢٠٠١١٨٠

To whom it may be concerned

We certify that our products we provide to our customer **Riadh Block Factory** with the exact descriptions according to **SASO /1914** and **ASTM** standards **C150/C150M-11** and we comply of above specifications according to tests reports attached with this certificate from **Rabigh Cement Plant**.

And this to whom it may concern that is **the Riadh Block Factory** is one of our customers.

9/1/2018

Company stamp



المركز الرئيسي : بدر : تليفون ٣٣٢٢٠٠٠ / ٠١٤ فاكس : ٣٣٢٠٣٨٠ / ص.ب : ٥٨ - المملكة العربية السعودية
فرع جدة - تليفون وفاكس ٦٢١٧٦٥٥ جوال : ٥٥٥٣٦١٣٥٩ - رابغ - تليفون : ٤٢٣٢١٦٢ / ٠١٢ ترخيص نقل : ٠٠٩٣٠٠
فرع القصيم : ت : ٠١٦ / ٣١٦٠٠٦١ - فرع ينبع : ج : ٠٥٥٤٣٤٤٠٠٩ - فرع ضباء : تليفون : ٤٢٢٤٢٣٥ - برقيا : أبناء عيد - المملكة العربية السعودية
MAIN CENTER : BADAR : Tel. : 014/3322000 - Fax : 014/3320380 - P.O.Box : 58 - Kingdom of Saudi Arabia
Jeddah Branch: Tel. & Fax: 6217655 Mob.: 0505361359 - Rabigh: Tel.: 012/4232162 - Licence Transportation: 009300

شهادة مطابقة شرائح العزل الحراري (بوليستيرين)

الشركة العربية الكيماوية المحدودة (ACC) - نوفمبر 2017

تقرير مورد

Arabian Chemical Company Ltd.

(Polystyrene)

Jeddah Industrial Estate - 3rd Phase
P.O.Box 30135, Jeddah 21477, Saudi Arabia
Tel.: 637 2485 / 637 3253 / 637 8150 / 636 0133
Fax: 637 3286



الشركة العربية الكيماوية المحدودة

(بوليستيرين)

جدة - المنطقة الصناعية - المرحلة الثالثة
ص.ب. ٣٠١٣٥ جدة ٢١٤٧٧ - المملكة العربية السعودية
هاتف : ٦٣٧ ٢٤٨٥ / ٦٣٧ ٣٢٥٣ / ٦٣٧ ٨١٥٠ / ٦٣٦ ٠١٣٣
فاكس : ٦٣٧ ٣٢٨٦

CERTIFICATE OF COMPLIANCE

CUSTOMER : RIYADH BLOCK FACTORY
PRODUCT : STYROFOAM THERMAL INSERT (50X200X315)
ORDER : 3001/20170008
ACC ORDER : 21061
DATE : November 22, 2017

GENTLEMEN,

THIS IS TO CERTIFY THAT OUR PRODUCT STYROFOAM THERMAL INSERT (50X200X315)
EXTRUDED POLYSTYRENE INSULATION INSERT SHALL COMPLY WITH THE FOLLOWING
SPECIFICATIONS

1. DENSITY : 30 Kg/m³
2. COMPRESSIVE STRENGTH : 250 Kpa

SINCERLEY,

FOR
ARABIAN CHEMICAL CO. (POLYSTYRENE) LTD.

HANI A. KHALAF
MANUFACTURING DIRECTOR



(*) Trademark of Dow Chemical Co.

المواصفات الفنية لشرائح العزل الحراري داخل البلك - صفحة 1 من 5

الشركة العربية الكيماوية المحدودة (ACC) - نشرة فنية

تقرير مورد



شرائح العزل الحراري المركبة داخل الطوب الإسمنتي "ثيرموبلوك"



الشركة العربية الكيماوية المحدودة (بوليستيرين)

المواصفات الفنية لشرائح العزل الحراري داخل البلك - صفحة 2 من 5

الشركة العربية الكيماوية المحدودة (ACC) - نشرة فنية

تقرير مورد



الشخصائص	المواصفات	الوحدة	شريحة ستيروفوم® ثيرمو بلاك
الكثافة (متوسط)	المواصفات الألمانية DIN 53420 المواصفات الأمريكية ASTM D1622	كجم/م ³ باوند/قدم ³	30 1,87
معامل التوصيل الحراري عند متوسط درجة حرارة 10 °C (50°F) و عند متوسط درجة حرارة 23,9 °C (75°F)	المواصفات الألمانية DIN 52612 المواصفات الأمريكية ASTM C 177-97 أو ASTM C 518-98H	واط / م.كلن بي تي يو. بوصة / قدم ² ساعة درجة فهرنهايت	0,029 0,21
قوة الضغط عند انحراف ١٠%	المواصفة الألمانية DIN 53421 و الأمريكية ASTM D 1621-95	كيلوباسكال باوند / بوصة مربعة	210 30
امتصاص الماء مع الغمر	المواصفات الألمانية DIN 53428 و الأمريكية ASTM D 2842 (لذقة الحجم ±1%)	نسبة % بالحجم نسبة % بالحجم	0,2 > ≤ 1
عامل مقاومة نفذية بخار الماء μ قابلية نفذية بخار الماء	المواصفات الألمانية DIN 52615 المواصفات الأمريكية ASTM E 96	-- برم - بوصة	80-160 1
الخاصية الشعرية	--	--	لا شبي
الثبات الحراري / مقاومة الجيوب عند الانصهار	المواصفات الألمانية DIN 18164	٢٠ كيلوباسكال، ٨٠ درجة مئوية نوع ٢.٨ باوند للبوصة المربعة ١٧٦ درجة فهرنهايت ٤٠ كيلوباسكال، ٧٠ درجة مئوية نوع ٥.٨ باوند للبوصة المربعة ١٥٨ درجة فهرنهايت	تجلبو W
المعامل الطولي للتمدد و انكماش حراري (في ظروف التسخين و التبريد في الماء)	المواصفة الألمانية DIN 52328	°C ⁻¹ °F ⁻¹	70 10 ⁻⁵ 39 10 ⁻⁶
التغير البعدي الغير قابل للعكس نتيجة الاختبارات المعملية تحت تغيرات درجة الحرارة حتى 60 °C (104°F)	--	%	--
تصنيف الحريق (ألماني) يمكن إنتاج مواد بتصنيف (ب) عند الطلب	المواصفة الألمانية DIN 4102	فئة مواد البناء	ب ٢
التصنيف حسب اندرلترز لبروترايز أنس classification (UL) وفقاً للمواصفات الأمريكية ASTM-E-84 Standard Test Method for بطريقة اختبار خاصية التفاعل أوجه مواد البناء وفق المواصفات الأمريكية ASTM C 578-95 ^(٢)	انتشار اللهب تكلف الشخان (وذلك لكثافة قصوى ٤ باوند للقدم المكعب و سماكة قصوى ٤ بوصة)	--	5 165
الأبعاد (بالمليمتر) العرض الطول السماكة	--	--	200 390 و 400 ٧٥ الكلي و ٦٠ الصافي (التصميمي)
المظهر (لمس السطح)	--	--	سطح خشن (تم إزالة السطح الأملس لتحسين التماسك مع الإسمنت)

(١) القيمة تتعلق بمقدار السماكة
(٢) السماكات الخاصة فقط عند الطلب و بتكلفة مختلفة



®TMA علامة تجارية لشركة داو كيميكا

المواصفات الفنية لشرائح العزل الحراري داخل البلك - صفحة 3 من 5

الشركة العربية الكيماوية المحدودة (ACC) - نشرة فنية

تقرير مورد

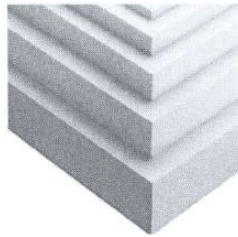
ستايروتك

ألواح العزل الحراري

يُنتج مصنع الرياض للعزل الحراري و مواد التعبئة (ستايروتك) نوعين من ألواح العزل الحراري المصنعة من مادة البولي ستايرين الممدد و هي مادة عضوية ذات كفاءة عالية في العزل الحراري و كثافة مرتفعة و انخفاض نفاذيتها للماء .

ستايروتك الألواح العازلة

الكثافة (كجم / م³):



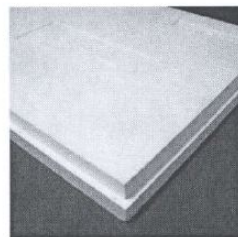
- ١٢، ١٤، ١٦ و تستخدم في عزل الأبواب الحديدية و العربات المنقلة (الكرفانات) و ردم الأماكن المنخفضة.
- ٢٠، ٢٥ و تستخدم في عزل الجدران إضافة لاستخدامها في الأعمال الفنية (ديكورات ، مجسمات..)
- ٣٠، ٣٥ و تستخدم في عزل الأسقف
- ٤٠، ٤٥، ٥٠ و تصنع حسب الطلب للأغراض الخاصة

الأبعاد (سم):

الارتفاع	العرض	الطول
١ - ١٠٠	١ - ١٢٥	١ - ٤٠٠

ألواح الفولكانو

و هي ألواح مقبولة ذات تصميم متراكب تسهل من عملية التركيب و تلغي الجسور الحرارية ، يتوفر من ألواح الفولكانو نوعين أساسيين:



الاستخدام	الأبعاد (سم)	الكثافة (كجم / م ³)
عزل الجدران	٤٧٥×١٠٠	٢٦-٢٤
	٥٦٠×١٢٥	
عزل الأسقف	٤٧٥×١٠٠	٣٥-٣٢
	٥٦٠×١٢٥	

ملاحظة : تزداد كفاءة العزل في الألواح العازلة كلما زادت السماكة و بنفس النسبة تقريباً ، بينما يكون تأثير زيادة الكثافة بسيط من ناحية أخرى ، فمثلاً:

- سماكة ٨ سم تعزل أفضل بنسبة ١٠٠٪ من سماكة ٤ سم
 - كثافة ٣٠ كجم / م³ تعزل أفضل بنسبة ٢٠٪ من كثافة ١٥ كجم / م³
- و لكن قد يكون من الضروري أحياناً استخدام كثافات عالية لاعتبارات أخرى .

المواصفات الفنية لشرائح العزل الحراري داخل البلك - صفحة 4 من 5

الشركة العربية الكيماوية المحدودة (ACC) - نشرة فنية

تقرير مورد

ستايروتك

خصائص ألواح العزل الحراري المصنعة من مادة البولي ستايرين الممدد

تتميز ألواح العزل الحراري المصنعة من مادة البولي ستايرين الممدد التي ينتجها مصنع الرياض للعزل الحراري و مواد التعبئة

(ستايروتك) بمميزات عديدة منها :

١. مقاومة حرارية عالية و معامل انتقال (توصيل) حراري متدني جدا
٢. لا تتأثر بالمواد الحامضية أو القلوية ، ولا تهاجمها البكتيريا أو الفطريات
٣. نسبة متدنية جدا لامتصاص الماء (لا تتعدى ٢,٠٠٠ ٪ من الحجم)
٤. لا تتأثر موصليتها الحرارية مع مرور الزمن
٥. مرونة كبيرة في اختيار الكثافات و السماكات حسب الطلب
٦. لا تحتوي على غازات ضارة

الكثافة					الوحدة	اسم الاختبار	الخواص
35	30	25	20	15	Kg/M ³	Din53420	الكثافة
44 -74	36-62	28 -50	20 -35	12 -25	K Pa	Din53421	مقاومة الانضغاط عند 2% انضغاط
225 -305	180 -225	140 -210	100 -160	65 -110	K Pa	Din 53421	مقاومة الانضغاط عند 10% انضغاط
450 -600	410 -490	325 -400	300 -240	160 -210	K Pa	Din 53423	مقاومة الانثناء
490 -590	375 -510	260 -415	225 -325	150 -230	K Pa	Din 18164	مقاومة الشد
220 -250	190 -220	150 -190	120 -150	90 -120	K Pa	Din 53427	مقاومة الكسر
6×10 ⁻⁵	6×10 ⁻⁵	6×10 ⁻⁵	6×10 ⁻⁵	6×10 ⁻⁵	K ⁻¹	Din 53752	معامل التمدد الخطي بين درجة حرارة 20 - 80°م
95	95	95	95	95	°C	Based On Din 53424	ثباتية الأبعاد تحت حرارة ذات مدى قصير
85 80 -85	85 80 -85	85 80 -85	85 80 -85	85 75 -80	°C °C	Based On Din 18164	ثباتية الأبعاد عند التعرض لدرجة حرارة للمدى الطويل والتعرض لضغط 5 Kpa 20Kpa
-180 to +85	-180 to +85	-180 to +85	-180 to +85	-180 to +85	°C	Din 18164	المدى الحراري للاستمرارية في العزل في الهواء
0.029 -0.033	0.029 -0.033	0.030 -0.034	0.034 -0.035	00.32-0.036	W/mk	Din 52612	الموصلية الحرارية عند درجة 10-0°م
16	20	26	35	40	g/day.m	Din 53429	سمحية نفوذ بخار الماء
1.9 3.2	2 3.5	2.2 3.8	2.3 4	3 5	Vol. % Vol. %	Din 53428	امتصاص الماء بعد الغمر لعدة أيام 1 سنة

المواصفات الفنية لشرائح العزل الحراري داخل البلك - صفحة 5 من 5

الشركة العربية الكيماوية المحدودة (ACC) - نشرة فنية

تقرير مورد

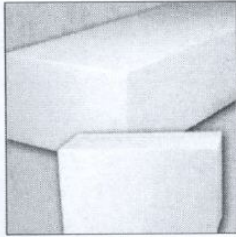
ستايروتك

ستايرو هوردي الفلين

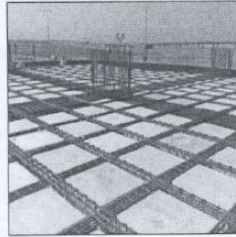
سعيًا من من مصنع الرياض للعزل الحراري و مواد التعبئة (ستايروتك) لتقديم منتجات مفيدة تساعد في مجال البناء؛ قمنا بإنتاج ستايرو هوردي الذي يمثل الحل الأفضل في الأبنية المرتفعة و ذات المساحات الكبيرة بين الأعمدة، حيث أن استخدام ستايرو هوردي يقلل من الأحمال و يوفر الوقت و الجهد، حيث يمكن تخفيف كميات حديد التسليح و لن يكون هناك هدر في الخرسانة و ستختصر وقت التحميل و التركيب للهوردي (مقارنة بالمنتجات الأخرى)، إذ يمكن توفير ما لا يقل عن ١٨٠ كجم/م² من الأحمال في سماكة هوردي ٢٥ سم مثلاً .

مميزات ستايرو هوردي :

- مرونة في الأبعاد ، حيث يتم التحكم في الارتفاع و العرض حسب احتياج السقف
- قوي و بدرجة كبيرة و كافية و تصميمه المصمت يمنع من تسرب الخرسانة
- تساهم في عزل الصوت و الحرارة



الكثافات المتوفرة لـ ستايرو هوردي :

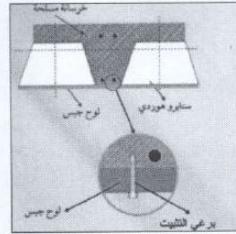


يتوفر العديد من الكثافات في منتج ستايرو هوردي (مثل الأنواع العازلة) ، غير أن كثافة ١٢ - ١٤ كجم / م³ تعتبر كافية لهذا المنتج ، و يمكن إنتاج أي كثافة أخرى حسب رغبة العميل .

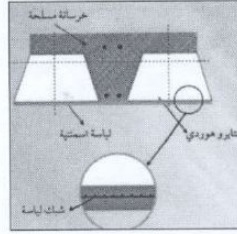
الأحجام المتوفرة :

الارتفاع (سم)	العرض (سم)	الطول (سم)
من ١ - ١٠٠	من ١ - ١٢٠	من ١ - ٤٠٠

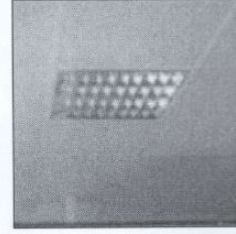
بدائل التشطيب و اللياسة :



ألواح الجبس ، و يتم تثبيتها بواسطة براغي خاصة تثبت في الأعصاب الخرسانية ، ثم يتم وضع المعجون على الفواصل



شيك اللياسة ، و يوضع بشكل متعامد مع اتجاه الأعصاب و يجب شده جيداً ووضعه قبل مد السقف



سقف مستعار، إذ انه في هذه الحالة لا داعي لتلييس السقف .

شهادة جودة مواد العزل (EPS) المورد للمصنع

المصنع الوطني لصناعة البوليستيرين (Styrenpack)

تقرير مورد



ستايرينباك

The National Factory for Polystyrene Packs Co.
Company Limited
Licence Number 6 Date 06/01/1397 H
C.R. No. 12551 Date 04/07/1397
J.C.C. No. 2704
Capital Paid : SR. 7,792,500

شركة المصنع الوطني لعبوات البوليستيرين
شركة ذات مسئولية محدودة
ترخيص رقم ٦ في ١٣٩٧/١/٦ هـ
س.ت. رقم ١٢٥٥١ في ١٣٩٧/٧/٤ هـ
غ.ت. رقم ٢٧٠٤
رأس المال المدفوع ٥٠٠,٧٩٢,٥٠٠ ريال سعودي

TOTAL QUALITY MANAGEMENT

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

شهادة جودة لمواد عزل منتج البلاك

السادة / مصنع بلوك الرياض للبلاك الإسمنتي بمقاساته وأنواعه يحفظهم الله
السلام عليكم ورحمة الله وبركاته..وبعد

نفيد عنايتكم بأن نوع الفلين المورد الى مصنع بلوك الرياض هو (EPS) ومقدار الضغط =
(١٤) وله حد مدى متفاوت مسموح به ($\pm 10\%$)

وتفضلو منا خالص الشكر والتقدير

قسم الجودة الشاملة



تقرير التحليل المخبري للمياه

مصنع الري للمياه - يناير 2018

تقرير مورد

Al-Rai Water Factory

Water Treatment & Bottling System



مصنع الري للمياه

محطة معالجة المياه ونظام التعبئة

Date :

التاريخ :

9.1.2018

DAILY LABORATORY REPORT

PARAMETERS	Al-Rai Composition (mg/l)
PH	7.8
TDS (TOTAL DISSOLVED SOLIDS)	241
CONDUCTIVITY	185 μ s
IRON(Fe++)	0
FREE CHLORINE	0.04
NITRATE(NO ₃ -)	3.2
SODIUM(Na+)	12.0
CALCIUM(Ca++)	12.9
MAGNESIUM(Mg++)	1
POTASIUM(K+)	0.4
CHLORIDE (Cl-)	45
TOTAL HARDNESS	60
FLOURIDE (F-)	0.8
BICARBONATE (HCO ₃ -)	11.5
SULFFATE(SO ₄ --)	2.8
TURBIDITY	0 FTU

MICROBIOLOGICAL ANALYSIS

PARAMETER	RESULTS (COLONY/100ml)
TOTAL BACTERIA COUNT	Nil
TOTAL COLIFORM COUNT	Nil

ANALYSED BY

CHEMIST

Nadhirshahan

MICROBIOLOGIST

Muhsin Ahmed

المملكة العربية السعودية - جدة - الإدارة : ٢٨٦٩٦٢٠ - ف : ٦١٢٠٢٠٢ - الصناعية ت : ٦١٢٠٢٠٢ - ص.ب ٤٣١١١ جدة ٢١٥٦١
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